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The fiercest company hunter in the oil patch, T. Boone Pickens Jr. hunts smaller game in his spare time; he was stalking quail on his Texas ranch when Arthur Meyerson took the cover photograph. For how Pickens thinks Gulf—and the rest of the oil industry—should be served up, see page 54.

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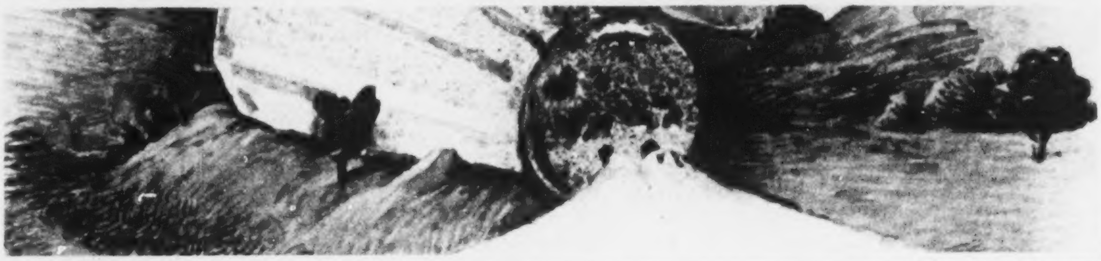

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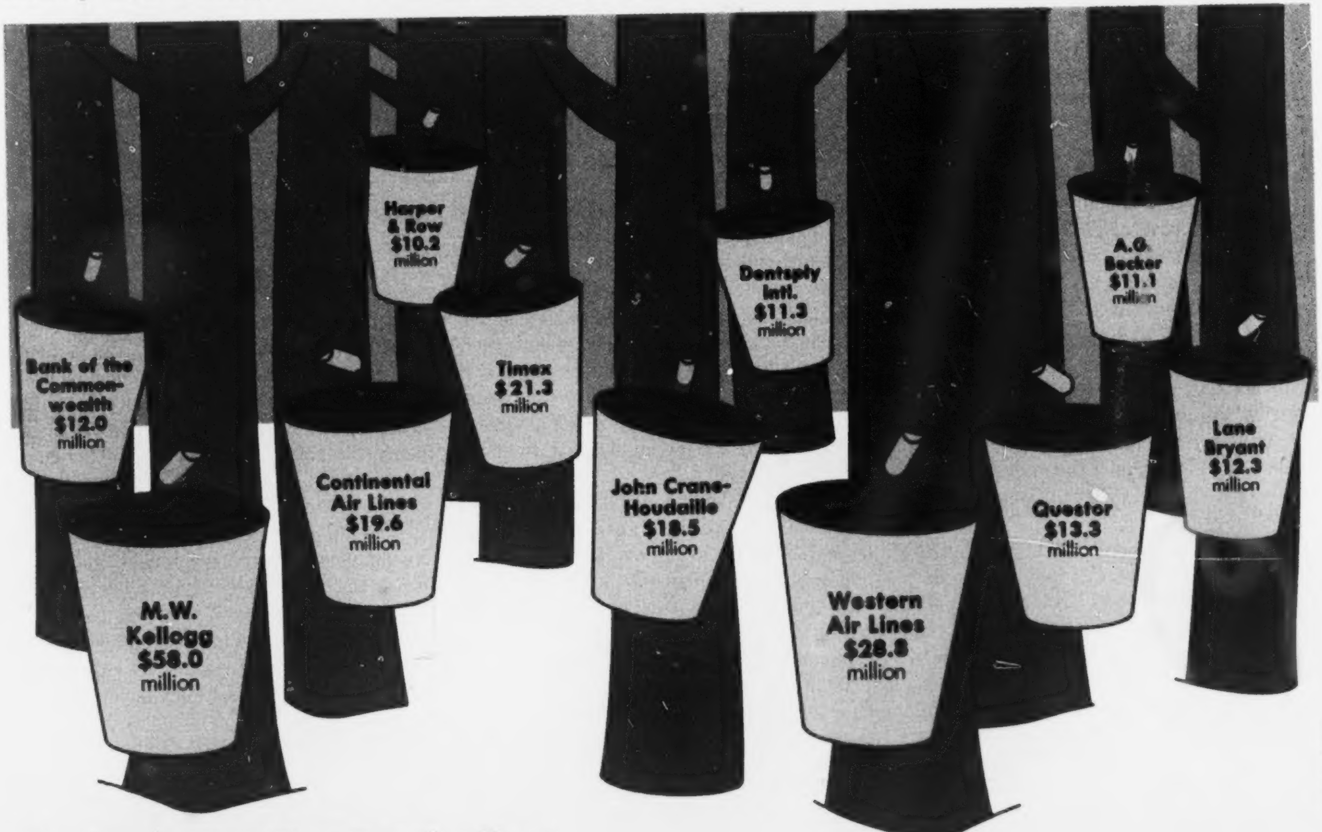
FINANCE/ARTHUR M. LOUIS

TAPPING THE RICHES IN COMPANY PENSION PLANS

■ The chairman of the House Committee on Aging calls it "pension piracy": the nation's private pension plans, with assets of $600 billion, are being tapped for hundreds of millions by the companies that set them up. Although the practice can be abused, it represents a great opportunity for management and is not nearly as nefarious as it may seem. Companies can recapture money that belongs to them while meeting all contractual obligations to employees. *continued*


Harper & Row $10.2 million
Bank of the Commonwealth $12.0 million
Timex $21.3 million
Dentsply Intl. $11.3 million
A.G. Becker $11.1 million
Continental Air Lines $19.6 million
John Crane-Houdaille $18.5 million
Lane Bryant $12.3 million
Questor $13.3 million
M.W. Kellogg $58.0 million
Western Air Lines $28.8 million

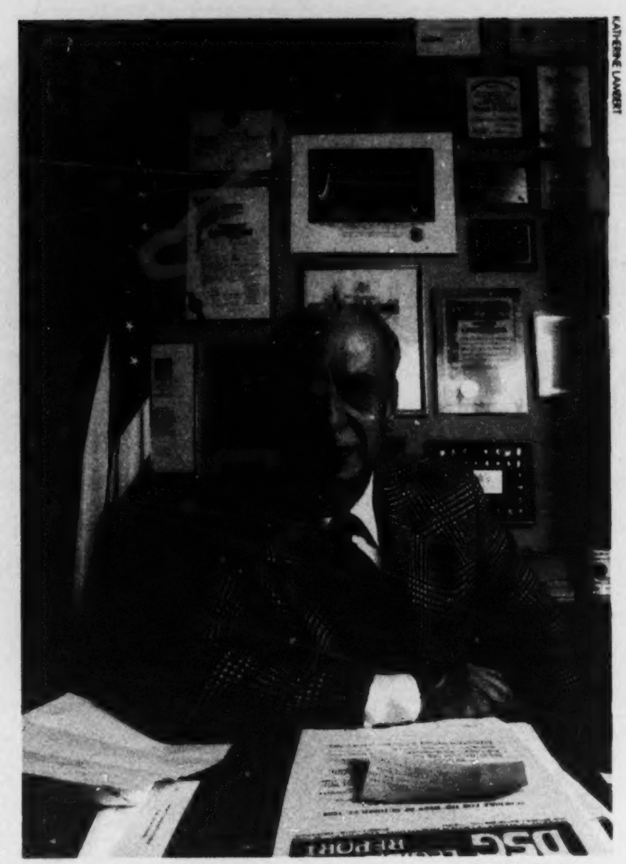
ANDERS WENNGREN

The Companies That Got the Most

Eleven companies had tapped more than $10 million each from overfunded pension plans as of last fall. M.W. Kellogg, now part of Signal Companies, drew off $58 million, the most approved thus far by federal authorities. That's because a highly conservative management—it used to be Pullman Inc.—worked hard at keeping its $123-million plan fully funded and then got a bonanza from the bull market in stocks. The figure for Timex includes amounts reclaimed from three pension funds; the figure for Western Air Lines covers two.

This lucrative activity centers on a new phenomenon: the overfunded pension plan. Many so-called defined-benefit plans, which promise a regular, predetermined payment after retirement, have grown extraordinarily large lately. They contain much more money than is needed, by actuarial calculations, to satisfy any obligations to current and retired employees. Hundreds of companies are taking shrewd advantage of these windfalls by canceling their plans and funneling the excess money into their operating and capital budgets. Most are also replacing their defined-benefit plans with "defined-contribution" plans, under which the company makes fixed payments into the pension fund but doesn't guarantee how much employees will get in retirement.

Just a few years ago *under*funded pension plans were making headlines. Today perhaps only 10% to 15% of the more than 100,000 private defined-benefit plans are underfunded, vs. more than 50% in the mid-1970s, and even some of the most notorious cases are no longer a problem. Perhaps the most notorious of all was the Lockheed Corp. pension plan. Six years ago it fell $276 million short; the plan is now overfunded to the tune of $702 million.



"People are getting gypped," *Congressman Roybal insists.*

KATHERINE LAMBERT

A rare combination of soaring stock prices and high interest rates has brought about the dramatic change. The stock market has inflated the values of pension fund investments, while high interest rates have held down the cost of reimbursing the fund beneficiaries. Companies normally meet their obligations by purchasing annuities for the beneficiaries, and the higher the interest rate the less it costs to buy a particular annuity.

A LOT OF COMPANIES are drawing an awful lot of money from their pension funds. Since 1980, 128 companies have carried out 138 fund "reversions" in which they were able to reclaim at least $1 million each in excess assets, according to figures compiled by the Pension Benefit Guaranty Corp. (PBGC), the federal agency that insures private pension plans. The funds involved in those reversions held $1.3 billion in assets all together, of which $515 million was deemed excess. The PBGC, which has to approve any cancellations, is currently considering applications that would free up well over $1 billion more in excess assets. Beyond that, an estimated $150 billion in excess assets sits untapped in all the other private pension funds. So opportunities await many employers.

Companies are putting the money to varied use. Some are retiring debt, making modest acquisitions, or buying back their own stock. In most cases, the money recovered pumps up reported profits; when a pension plan is tapped, the money flows through the income statement.

Many cancellations are being sought by companies in financial straits. In one of the largest reversions approved so far, Continental Air Lines recaptured $19.6 million last year by liquidating a pension fund with assets of $66 million—a move that didn't forestall Chapter 11 bankruptcy in September.

Plenty of sturdier companies are getting on the bandwagon as well. The largest fund reversion of all is being sought by Occidental Petroleum Corp., whose venerable chairman, Armand Hammer, 85, hardly ever misses a financial trick. Last May Occidental announced plans to "restructure" its pension program by canceling four defined-benefit plans, which contain $541 million in excess assets. Occidental plans to use most of the money to retire some of the $4 billion in debt incurred when it acquired Cities Service Co. last year.

Occidental's fund reversion is comparable in most ways to what is happening throughout the business world. To meet its obligations to beneficiaries of the canceled plans, Occidental bought a group annuity from Metropolitan Life Insurance Co., which guaranteed a 12% interest rate, compounded annually, for the next ten years, with the rate to be renegotiated at the end of that period. The canceled plans are being replaced by a defined-contribution plan.

Unlike most other reverters so far, Occidental has also set up a supplementary salary-reduction—or thrift—plan, and an employee who chooses to participate can have up to 12% of his salary withheld and invested for him in a tax-deferred fund. Occidental will match the employee's contribution up to 6% of salary. Such tax deferments are authorized by the Internal Revenue Act of 1978, whose relevant section has given its name to many so-called 401(k) plans.

Companies that cancel their pension plans aren't required to establish new ones, but they almost always do. Without providing a pension plan of some sort, they would have a hard time attracting or keeping good employees. In one important respect, however, reversions may leave employees with less security than they had before.

Most companies are going the defined-contribution route when they revert, shifting some of the uncertainties about pensions from themselves to their employees. Because the company doesn't have to guarantee the size of the benefit, it isn't obligated to increase its contributions when the fund's investments do poorly. Depending on the fund's performance, employees might get much better pensions than they would have under a defined-benefit plan—or they might wind up with peanuts. But companies are clearly within their rights to make such changes whether or not they have overfunded pension plans.

Legal requirements have to be met before an overfunded pension plan can be tapped. A company can't simply draw off the excess and keep the old plan going, since the Employee Retirement Income Security Act forbids withdrawals from active plans. The law also requires a company to show that its plan became overfunded through "actuarial error"—meaning that the assets increased

RESEARCH ASSOCIATE *Philip Mattera*

more rapidly than the company could have reasonably anticipated. The idea is to prevent companies from contributing lots of tax-deductible money to their pension funds in good times, then reclaiming the money when profits are down.

Though the PBGC is laboring over a backlog that delays decisions for months, it has never refused to approve the cancellation of an overfunded plan. Cancellations also are reviewed by the Internal Revenue Service, which rules on whether they jeopardize the tax-exempt status of money contributed to the funds; approval usually is granted without fuss. Hovering in the background is the Department of Labor, which investigates charges of shenanigans but has never contested the cancellation of an overfunded plan.

DESPITE the firm legal underpinnings, pension fund reversions strike a lot of people as unfair and even unethical. Most of the grumbling comes from union leaders, disgruntled employees, and their allies in Congress. These critics argue that pension plans are created for the benefit of the employees, and if by happy chance the plans become overfunded, the employees should receive the surplus. The critics also maintain that canceling in effect reneges on a promise to employees who joined their companies with the understanding that they would be covered by defined-benefit plans.

A few pension fund reversions are being challenged in the courts. The loss-ridden Great Atlantic & Pacific Tea Co. announced in 1981 that it would cancel its defined-contribution plan. This would have produced a $250-million windfall, not only for the usual reasons but also because A&P had sharply reduced employment. The company planned to use the money to renovate its present grocery stores and build new ones, but it was promptly sued by a retired executive, William I. Walsh, who contended that the excess assets properly belonged to the plan's beneficiaries. His suit later was expanded into a class action.

A&P agreed to an out-of-court settlement in which it promised to let the beneficiaries have $50 million of the excess assets. The settlement was accepted by the attorneys in the class action, and was approved by a federal judge. It has not gone into effect, however; Walsh has appealed, still arguing that the beneficiaries should get all the money.

In perhaps the most controversial case of all, two suits have been filed against Harper & Row, one of the nation's largest book publishers. In December 1981 Harper & Row canceled its defined-benefit pension plan, with the PBGC's approval, and reclaimed over $10 million in excess assets. Management used the excess to help finance the purchase of about a million shares of Harper's common stock, one-third of the total outstanding, which was being put up for sale by Minneapolis Star & Tribune Co., now Cowles Media Co. Harper bought it because "we didn't want to submerge ourselves into a Gulf & Western, Newhouse, or MCA," says Brooks Thomas, 52, Harper's president and chief executive. In August, Harper agreed to pay $20.4 million, or $20 a share. At the time, the company's stock was trading over the counter for less than $13 a share, but Thomas insisted that $20 was a fair price for a controlling block.

The excess pension fund assets covered only about half the purchase price, so Harper also used $1.8 million that had been allotted to an employee profit-sharing fund, and raised the balance by selling real estate and borrowing from banks. The profit-sharing fund was to receive 15% of the shares, and over five years the balance would go into a newly established defined-contribution plan.

Brooks Thomas offered a sunny interpretation of Harper's actions. By including stock purchased with bank loans and the proceeds from real estate sales, he pointed out, the contribution gave the employees more than they would have got under the old plan. The stock, he said, would "create an identity of interest between our employees and shareholders, which does not normally exist in publicly held companies."

Sharp dissents followed. Raymond C. Harwood, 77, who had served as chairman of Harper & Row until 1969 and was both a pensioner and stockholder, described the price paid for the stock as "excessive" and filed suit against the company. He was joined by Glen Howard, a middle-management executive who has since left Harper. Another suit was filed by District 65 of the United Automobile Workers Union, which represents 280 clerical and editorial employees. The union protested that Harper had used the pension fund as a "piggy bank" to entrench management, violating its fiduciary duties to employees.

Harper offered most employees a choice between an annuity guaranteed by Prudential Insurance Co. and a lump-sum payment representing the current value of the promised future benefits. But the union contended that the lump-sum payments were unrealistically low because they were predicated on an unrealistically high interest rate—15% a year into the indefinite future. Harper's motion to dismiss the suits is being considered by a federal judge in New York.

The Harper case has been a bone of contention in hearings before the House Com-

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The Bank of Miami
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First Bank Saint Paul
First City Banks (Texas)
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First Interstate Bank of Utah
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mittee on Aging, chaired by Representative Edward R. Roybal, 67, of California. Roybal opened one session with a thundering declamation: "A proliferation of these self-interested employer activities is spreading unchecked like some insidious disease, striking down the retirement security of the worker, infecting one employer after the other, while the agencies merely stand by and ponder."

LIGHTNING has yet to accompany the thunder. Those pondering agencies were the PBGC, which didn't send a representative to testify before the committee, and the Labor Department and the IRS, whose representatives testified that they didn't see a serious problem. Alan D. Lebowitz, acting administrator of the Labor Department's pension and welfare benefit programs, told the committee employers should be free to terminate plans they sponsor "as long as the benefits earned by participants and beneficiaries are protected." The regulators are saying, in effect, that a pension fund's excess assets belong to the shareholders, not employees.

The PBGC and IRS *have* taken a jaundiced view of a newly proposed device, the pension "spin-off," in which a company would split its pension plan into two parts—one for the retirees and the other for active employees. Both AMAX Inc. and Stroh Brewery Co. recently filed spin-off applications. Stroh intends to assign all the excess assets to the retiree plan, cancel it, and buy annuities for the retirees. In this manner it would recover the full amount of the excess without having to buy annuities for the active employees, who would continue under the old defined-benefit plan. The PBGC, however, is unsure whether canceling just one part of a plan would be legal. And the IRS might require companies to divide excess assets between both the canceled and uncanceled parts of a plan, which is what AMAX intends to do.

But one way or another reversions are likely to keep increasing as long as pension plans generate surplus earnings. Roybal wants to restrict them, but until he holds more hearings next year he won't predict what form legislation might take. Even then, Congress and the Reagan Administration are unlikely to keep companies from going after those surplus billions.

■ The real question critics should be raising about pension fund reversions is whether or not the money they yield is being put to good use. Properly redeployed, those excess assets can revitalize troubled companies and even save some from extinction—something that employees, no less than employers and shareholders, should consider desirable. ■

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WHAT'S AHEAD FOR THE ECONOMY: THE NEXT 18 MONTHS, INDUSTRY BY INDUSTRY

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Applause, applause for the best-regarded U.S. companies—that's the message of Vivienne Flesher's cover drawing. For the results of FORTUNE's survey of 250 corporate reputations, see page 50.

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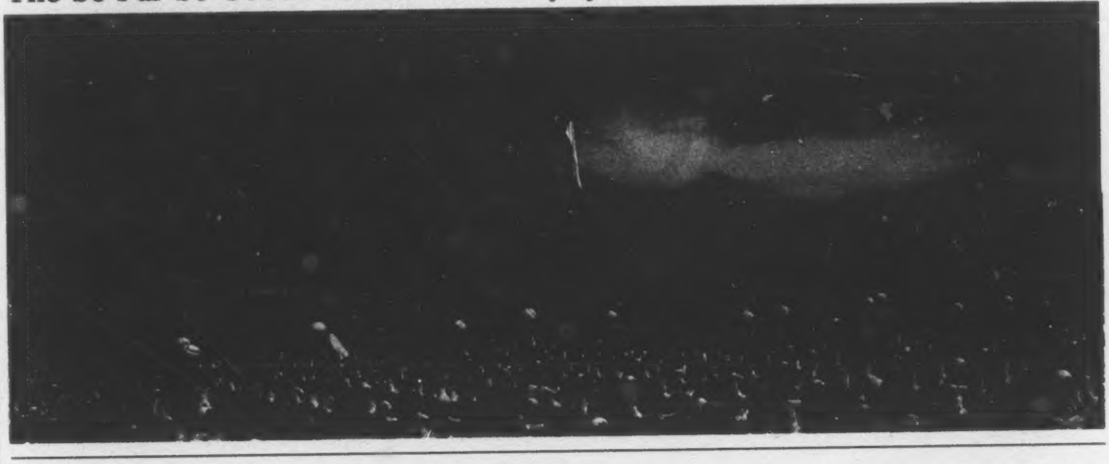

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SURVEY/NANCY J. PERRY

AMERICA'S MOST ADMIRED CORPORATIONS

■ For the second year, IBM is the most admired of the largest U.S. corporations and International Harvester is the least admired. Between the extremes of top and bottom, many companies changed ranks in FORTUNE's second annual survey of corporate reputations, expanded this year to cover 250 companies in 25 industries. The standing of some companies—such as Motorola, Lockheed, and General Foods—has gone up, in some cases sharply. Other companies—among them Northrop, Martin Marietta, and Beatrice Foods—have dropped in the rankings.

The five industries added this year are mining and crude-oil production; apparel; publishing and printing; glass, concrete, abrasives, and gypsum; and beverages. These industries contributed four companies to the ten-most-admired list: Dow Jones, publisher of the *Wall Street Journal*; Time Inc., publisher of FORTUNE; Anheuser-Busch; and Coca-Cola. Without the new industries, General Mills and Eastman Kodak would have remained among the ten most admired companies. Instead, they rank 12th and 13th, respectively. AT&T, SmithKline Beckman, and Digital Equipment, all among the most admired last year, would not have made the top ten this year even if new industries had not been added.

The newly added industries contributed two companies to the ranks of the least admired: Manville and Pabst Brewing. Three companies besides International Harvester are among the least admired group for the second time—Pan Am, American Motors, and Republic Steel.

Two other airlines—Eastern and Trans World—landed in the least admired ranks this time around, as did U.S. Steel, now classified as a petroleum refining company because of its acquisition of Marathon Oil. Warner Communications, also among the least admired for the first time, was not ranked before because it was not one of the ten largest companies in the electronics and appliances industry.

Of the six companies that were on the least admired list last year but are not there this year, only one—Crown Zellerbach—would have stayed in the cellar if new industries had not been added. A&P, Woolworth, and Tesoro Petroleum disappeared from the survey altogether; they were no longer among the ten largest companies in their industries. Two of last year's least admired companies, RCA and National Steel, are now more highly regarded. Both are trimming down. RCA is selling CIT, a financial services company, to Manufacturers Hanover. National Steel—now part of a new holding company, National Intergroup—is selling Weirton Steel to employees. Observes Merrill Lynch Vice President Charles Ryan, "Divestment and redeployment of assets is the hot strategy today."

To earn a triple-A reputation, FORTUNE's survey suggests, it is first necessary to earn money consistently. The most recent year any of the most admired group lost money was 1947, when Boeing took a nose dive. Of the five companies in the top ten for the second time, only Merck has ever reported an unprofitable year, back in 1921. The group's median return on stockholders' equity in 1982 was 18.1%, compared with 10.9% for the FORTUNE 500. Seven of the ten least admired companies lost money in 1982. As U.S. Steel's chief financial officer, W. Bruce Thomas, wryly says, "It's difficult to rank very high after you've lost $361 million."

THE LEAST ADMIRED group's median total return to investors (a figure that includes both price appreciation and dividend yield) was a *negative* 4.2% over the past ten years. But apparently a company doesn't have to reward its owners handsomely over the long term to be well thought of. The ten most admired companies provided a ten-year median total return to investors of 6.3% a year—well below the FORTUNE 500's median return of 9.3%. With the outlook improving

AT THE TOP AND BOTTOM OF THE 250 COMPANIES

The most admired

Five companies are new among the most admired: Dow Jones, Time Inc., Anheuser-Busch, Coca-Cola—all from industries not surveyed last year—and Boeing. The scores are averages of ratings on eight key attributes.

Rank	Company	Industry Group	Score
1	**IBM**	Office equipment, computers	**8.53**
2	**Dow Jones**	Publishing, printing	**8.35**
3	**Hewlett-Packard**	Office equipment, computers	**8.24**
4	**Merck**	Pharmaceuticals	**8.17**
5	**Johnson & Johnson**	Pharmaceuticals	**8.15**
6	**Time Inc.**	Publishing, printing	**7.99**
7	**General Electric**	Electronics, appliances	**7.96**
8	**Anheuser-Busch**	Beverages	**7.91**
9	**Coca-Cola**	Beverages	**7.87**
10	**Boeing**	Aerospace	**7.79**

Rank	Company	Industry Group	Score
250	**International Harvester**	Motor vehicles and parts	**3.64**
249	**Eastern Air Lines**	Transportation	**3.85**
248	**Manville**	Glass, concrete, abrasives, gypsum	**3.87**
247	**Pan Am**	Transportation	**4.19**
246	**American Motors**	Motor vehicles and parts	**4.21**
245	**Republic Steel**	Metal manufacturing	**4.47**
244	**Pabst Brewing**	Beverages	**4.57**
243	**Trans World**	Transportation	**4.58**
242	**Warner Communications**	Electronics, appliances	**4.60**
241	**U.S. Steel**	Petroleum refining	**4.69**

The least admired

International Harvester, Pan Am, American Motors, and Republic Steel languish for the second year among the least admired. All others are new; Pabst and Manville are in industries that were not surveyed last year.

EIGHT KEY ATTRIBUTES OF REPUTATION

Quality of management

Most admired	Score
IBM	9.16
Hewlett-Packard	8.75
Dow Jones	8.70

Least admired	Score
Warner Communications	3.93
Continental Illinois	4.36
International Harvester	4.40

Quality of products or services

Most admired	Score
Dow Jones	9.06
Boeing	9.02
Anheuser-Busch	8.64

Least admired	Score
Eastern Air Lines	4.91
Pan Am	5.17
Warner Communications	5.18

Innovativeness

Most admired	Score
Citicorp	8.69
Merrill Lynch	8.35
Time Inc.	8.26

Least admired	Score
International Harvester	4.21
U.S. Steel	4.24
Greyhound	4.34

Long-term investment value

Most admired	Score
IBM	8.88
Dow Jones	8.39
Hewlett-Packard	8.08

Least admired	Score
Eastern Air Lines	2.45
International Harvester	2.72
Manville	2.81

for some companies, median total return for 1982 of the least admired moved to the positive side: 4.1%. And good reputation was rewarded at last: the FORTUNE 500's median total return of 21.2% in 1982 was less than half the most admired group's 56.8%.

FORTUNE polled over 7,000 corporate executives, outside directors, and financial analysts; half responded. Those surveyed were asked to rate only the ten largest companies in their own industry, using a scale of 0 (poor) to 10 (excellent), on eight key attributes of reputation: quality of management; quality of products or services; innovativeness; long-term investment value; financial soundness; ability to attract, develop, and keep talented people; community and environmental responsibility; and use of corporate assets. For how each company ranks within its industry, see pages 56 to 62.

The industries surveyed are 25 of the largest in the FORTUNE 500 and FORTUNE Service 500 directories of U.S. industrial and non-industrial corporations. Industries with fewer than ten companies in the directories —cosmetics, tobacco, and rubber—were excluded from the survey. The industry groups are based on categories established by the U.S. Office of Management and Budget. Companies are assigned to industry groups according to the business that contributed most to 1982 sales (or assets, for certain industries). These criteria sometimes put a company into a category where it does not feel at home.

Household International, for example, is a

Financial soundness

Most admired	Score
IBM	9.45
General Electric	8.88
Dow Jones	8.80

Least admired	Score
International Harvester	1.44
Eastern Air Lines	1.96
Manville	2.34

Ability to attract, develop, and keep talented people

Most admired	Score
Hewlett-Packard	8.42
IBM	8.39
Merck	8.29

Least admired	Score
International Harvester	2.85
American Motors	3.55
Manville	3.80

Community and environmental responsibility

Most admired	Score
Johnson & Johnson	8.44
Eastman Kodak	8.26
IBM	7.95

Least admired	Score
Manville	3.12
International Harvester	4.33
Gulf & Western	4.44

Use of corporate assets

Most admired	Score
IBM	8.47
Dow Jones	8.26
Hewlett-Packard	8.01

Least admired	Score
International Harvester	3.30
Eastern Air Lines	3.69
Manville	3.85

diversified company—its four major subsidiaries include Household Finance—that derives more than half its revenues from retailing. Before the survey results were tabulated, Chief Executive Donald C. Clark protested that his company was being assessed by people knowledgeable about retailing but not necessarily about Household International. He feared that this might depress its ranking—and he may have been right. Household trails the retailing list.

In remaining the most admired company, IBM scored higher this year than last, perhaps in part because the survey was made as the PCjr home computer was about to be introduced. IBM received a near-perfect 9.45 for financial soundness—the highest score awarded a company on any attribute. (For an analysis of recent untoward movements in IBM's formidable stock, see page 117.) The company's leaders drew a 9.16 score for quality of management. Explains security analyst Ulric Weil of the Morgan Stanley investment banking firm, "They have performed rather flawlessly."

No. 2-ranked Dow Jones took top honors for quality of products or services—one of only two categories in which IBM failed to appear among the three leaders. (The other was innovativeness.) Dow Jones was second only to IBM for investment value and use of corporate assets.

Hewlett-Packard, No. 3, was rated with the precision-instruments group last year, but now gets more revenues from computers than from instrumentation. For the sec-

VIEWS FROM THE TOP—AND BOTTOM

■ To learn how chief executives of corporations ranked in FORTUNE's survey of reputations see their companies, reporter Nancy J. Perry talked with 11. Excerpts from interviews with the head men of the three top-ranked companies and the last-ranked one:

ERICH HARTMANN—MAGNUM

John R. Opel, IBM

On IBM's top ranking: I think this is the finest industrial enterprise in the world. I've thought that for a long time.

On the company's key strengths: A commitment to excellence and a commitment to customer service. The fundamental thing is that the people who work in the company make it a good company. That's really the secret: the people. It's our good fortune to have superior people who work hard and support each other. They have adapted to our set of basic beliefs—the standards we expect of one another—and follow those standards in dealing with one another and with people outside the company. I know it sounds corny, but it's true, and there's no point in trying to analyze it much more than that. Mr. Watson Sr. [IBM founder Thomas J. Watson Sr.] used to say, "You can take my factories, burn up my buildings, but give me my people and I'll build the business right back again." And he was right. There really isn't much magic. It's not feathers and mirrors, it's human qualities that make our company strong.

On the kind of people IBM looks for: We're a positive bunch of people, the kind who like to do creative things. I believe that like begets like. You look for people with the same qualities as other people who are building the company.

On why IBM doesn't rank at the top for innovativeness: I don't really understand it. We've got a patent portfolio that testifies to our technical innovations, and we've got a remarkably successful marketing organization that does some very creative things every day. They can't just go out and say, "Want some shoelaces, Mister?"

On whether IBM is too aggressive or powerful: I get confused by the point of view in our industry that there's a zero-sum game here—that the only way IBM can win is for somebody else to lose. That's not so. We're in an industry that's growing at an enormous rate, and there is a tremendous opportunity for lots of people. So you don't have to be aggressive, whatever that means, or powerful. Some people write about us and say things like, "Their products are okay, but their sheer size—*Big Blue*." And I guess it bothers me a little bit, because I know a lot of people in IBM and I don't ever think of them as being aggressors or predators or Big Blues, crushing people—do you?

If any of us in our company behave in any way that reinforces the idea of smugness or power or arrogance, then our image could be severely tarnished. People aren't comfortable with the idea that IBM is *always* good. "Always" is the kind of term that, in America at least, provokes, "Oh *yeah*?"

That's the kind of thing that troubles me a little bit. The hero of today can become the bum of tomorrow.

DOW JONES & CO

Warren H. Phillips, Dow Jones

On profits and reputation: Reputation comes primarily out of a long tradition of trying to set very high standards, in the sense of content [of Dow Jones publications], responsiveness to the customer, delivery, and so forth. Profit is not the No. 1 goal—it's serving the public. Profits come out of that, and then get turned back into improving the business. Return on investment and earnings are means to an end, not ends in themselves. We turn down millions of dollars a year in ads for issues or products we consider objectionable.

We just won a court case preventing the Chicago Board of Trade from using the Dow Jones averages as a basis for index trading. We were offered royalties, but we don't want people to think we are participants in markets we cover. It's all related to our independence. We don't want our reputation to be tainted by the appearance that outsiders can influence our news columns.

On sticking to one's knitting: We are a provider of news and information. Everything we do is related to that.

On quality as a corporate goal: Lots of companies set as a goal maximization of earnings, return on equity, etc. We set high standards of performance in terms of content and quality. Financial excellence follows from that. That sounds kind of cornball, but

ond time the company was rated better than any other on attracting, developing, and keeping talented people. It was among the top three of the 250 companies for three other attributes: quality of management, investment value, and use of corporate assets. Hewlett-Packard also boasted the highest 1982 total return to investors among the most admired companies: 84.8%.

Fourth-ranked Merck, a $3.1-billion-a-year company noted for heavy investment in research and development, ranks among the top ten companies on all eight attributes. It received the highest score among drug companies for quality of products: 8.45.

The reputation of Johnson & Johnson (No. 5) was clearly not hurt by the deaths in September 1982 of seven people in Chicago who swallowed Tylenol capsules that someone had packed with cyanide. The company voluntarily withdrew the drug at a pretax cost of over $100 million and gets high marks for its handling of the tragedy, scoring first among the 250 companies for community responsibility. Says Chairman James Burke, who notes that Johnson & Johnson suffered another blow when the pain reliever Zomax was withdrawn because of a harmful side effect, "We really cashed in on the reputation of 90 years of this company."

Sixth among the most admired companies, Time Inc. ranks third for innovativeness and fourth for investment value and ability to attract, develop, and keep talented people.

General Electric rose this year from No. 9 to No. 7. The company rates second for fi-we find that it works. And that is what attracts the kind of people who meet the standards we set.

On building a good reputation: I think reputations are built very slowly over many years—on consistency of service to the consumer, high ethical standards, and in the case of journalism, accuracy, reliability, and trustworthiness. And those are not built overnight. Once the public judges you well, that's great. But if you trip and do a number of things that are unreliable, untrustworthy, what you've built up can collapse overnight. The companies on your list have probably gotten there due to a long period of pursuing quality and observing strict ethical standards. I'll bet none are there because of the good job they've done in the past year or two—there must be a long period of good performance. But a bad reputation you can get overnight.

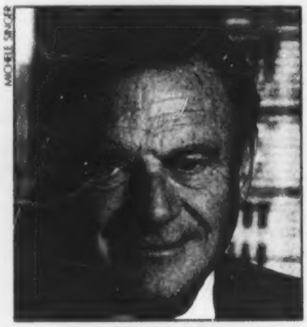
HEWLETT-PACKARD

John A. Young, Hewlett-Packard

On the value of clearly stated objectives: We have had a set of corporate objectives that have been in place, guiding the practices of our company, for years and years. Dave Packard and Bill Hewlett [founders of the company] didn't even write them down until we had been in business about 20 years. They are not a theoretical set of objectives, but rather a practical recipe on how to run a successful company. [The seven objectives concern profit ("... sufficient profit to finance our company growth ..."), customers (" ... provide products and services of the greatest possible value ... thereby gaining and holding their respect and loyalty"), fields of interest, growth, people, management, and citizenship ("... honor our obligations to society ...").] The corporate objectives provide the basic framework for the management-by-objectives system, which gives individual managers a lot of freedom to be entrepreneurial and innovative. They are a kind of glue—the basic philosophy, the basic sense of direction, sort of a value set—that draws everyone together.

On research and development: We spent half a billion dollars on research and development last year—the third-largest private electronic R&D program in the U.S. [after IBM and Bell Laboratories]. There is a lot of risk-taking, a lot of innovation. If you take any given year, half of our orders will come from products introduced in the preceding three years. That is one of the hallmarks of our company—this ability to come up with new products.

On getting and keeping good people: Within the last year we hired probably 1,500 young people directly from college. We have a very consistent college recruiting program, perfected over many years, to identify and hire the brightest young people. And then the challenge is to create the kind of environment where those people see their futures here, as opposed to spending all their time looking around [for jobs elsewhere]. You have to compete for people—get their attention and loyalty.


MICHELLE SINGER

Donald D. Lennox, International Harvester

On being ranked last: Obviously I can't be objective in saying if it's a bum rap or not, but it's a difficult thing for me to understand. Our stock has gone up in the past year, and we have gained market share in trucks and tractors. We're holding our market share in self-propelled combines. Those things say that the perception is that Harvester's products are good, the investment is good, and so forth. So apparently the perceptions revealed here are not inhibiting our sales in the marketplace.

On loyalty: One of the gratifying things to me is that our top managers have stuck with us. There are times when you look around and say, "What the hell am I doing here?" But a spirit has developed: "By God, we want to be a member of the team that pulls International Harvester through these hard times. We think it can be done, and we will prove to the public we can do it." That's the only explanation I can offer why individuals who have had no bonuses and 20% salary cuts, who've had substantial salary increases offered them by other companies, did not leave. God bless 'em, because it's been a tough, long fight. And you don't get much psychic income when you go to meetings or parties and people ask who you're with. You say International Harvester, and they roll their eyes like, "Oh, my God—you've got problems."

On Harvester's future: I think next year at this time we ought to be smiling a bit.

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nancial soundness and fourth for wise use of assets. The latter rating may reflect in part the planned sale of Utah International to Broken Hill Proprietary, Australia's largest industrial company, for nearly $2 billion. Utah International, a mining company, no longer fits into GE's strategic plan.

Two beverage companies joined the most admired list—Anheuser-Busch, No. 8, and Coca-Cola, No. 9. Best known for Budweiser and Michelob, the world's largest brewer is third—behind Dow Jones and Boeing—on quality of products. Coca-Cola is the only member of the most admired group that doesn't rank among the top three for any attribute. It outscores Anheuser-Busch, however, on long-term investment value, financial soundness, and innovativeness.

Boeing ranks tenth among the most admired companies, but for financial performance, the world's leading producer of commercial jet aircraft is the highflier of the group. In the ten years through 1982, Boeing's earnings growth rate and total return to investors hovered around 25% per year, compounded. (The most admired companies as a group had a 13% median growth rate.) Of Boeing's high ranking for product quality, Chairman T. A. Wilson says: "I think we do more testing than anybody else."

Just as golden reputations aren't destroyed overnight, a corporate reputation isn't rebuilt in a day. Perceptions lag behind reality—which companies at the bottom of FORTUNE's survey find frustrating. "I have to accept that this is the way the public sees us," says International Harvester Chairman Donald D. Lennox. Lennox argues that things are looking up for Harvester (see "International Harvester Lives!" FORTUNE, December 26). But he adds: "I guess the real world is: 'The hell with the facts—it's the perceptions.' "

Other companies on the least admired list also have brighter prospects, including Pan Am, Republic Steel, and American Motors. The automaker shifted into higher gear after forming a successful partnership with Renault, and its hot-selling Alliance was *Motor Trend* magazine's 1983 car of the year. But it will take time to overcome 14 consecutive quarterly losses.

Metal manufacturers are not admired these days: the industry received the survey's lowest median score (5.51). But Republic Steel hopes to prove its mettle; the company plans to merge with Jones & Laughlin, making it part of a company that will have the second-largest steelmaking capacity in the U.S.

Pan Am, recovering from a $485-million loss in 1982, is described by security analysts as the up-and-comer in an industry that is still encountering downdrafts. Eastern, rated lowest of the 250 companies for quality of services and investment value, recently threatened bankruptcy (see page 111). TWA is continuing to lose money, and its parent, Trans World, is spinning it off.

NOW SEEKING to reorganize under Chapter 11, Manville was rated only 2.34 on a scale of ten on financial soundness and 2.81 on long-term investment value. The company faces up to 52,000 suits alleging that exposure to asbestos products caused serious illnesses and deaths. It ranks lowest of the 250 on community responsibility. At Pabst, where for years the biggest thing brewing was problems, the outlook has been more ail than ale. Pabst lost $23.5 million in 1981 and made just $2.7 million in 1982. It fought off seven unsolicited takeover attempts in 18 months. Having kept its independence, says President William F. Smith Jr., the company hopes to rebuild its reputation by giving undivided attention to selling beer.

Fierce competition in the home computer market and misjudgment of demand for video games led to a $536-million loss in the first nine months of 1983 for Warner Communications' Atari division. In September an Atari plant dumped 14 truckloads of video cartridges and computer equipment at the city landfill in Alamogordo, New Mexico. Scoffs an analyst, "That's not real good inventory management." The company says the products were defective. Warner was judged to have the poorest quality of management of all 250 companies.

U.S. Steel's reputation was corroded by a number of elements, including inefficient steel operations, poor finances, and a controversial plan to import steel slabs from British Steel. Sums up analyst John Tumazos of Oppenheimer & Co., a brokerage house, "They've stepped on lots of toes." U.S. Steel was rated among the bottom three companies for innovativeness.

■ The most admired U.S. companies believe that their ultimate success depends on how they are perceived by the public. "Consumers trust certain companies," says August Busch III, chairman of Anheuser-Busch. "Consumers trust IBM. Consumers trust an Anheuser-Busch product. They trust a Boeing airplane." Repeatedly, corporations with first-class reputations are seen to put quality, integrity, and respect for the customer alongside profits on the bottom line.

HOW COMPANIES RANK IN 25 INDUSTRIES

The industry groups are based on categories established by the U.S. Office of Management and Budget. Each company is assigned to an industry group according to the business that contributed most to 1982 sales (or assets, for certain industry groups).

Aerospace

Boeing ranks first in all attributes except financial soundness, for which United Technologies gets the palm. The big movers were Lockheed (up) and Northrop and Martin Marietta (down). Martin Marietta, bruised in fighting off a Bendix takeover, rates lowest on financial soundness and attracting and keeping talented people.

Rank	Last Year	Company	Score
1	1	**Boeing**	7.79
2	2	**United Technologies**	7.16
3	4	**Rockwell International**	6.93
4	8	**Lockheed**	6.84
5	7	**General Dynamics**	6.81
6	6	**McDonnell Douglas**	6.73
7	3	**Northrop**	6.70
8	—	**Signal Companies**[1]	6.57
9	5	**Martin Marietta**	6.26
10	9	**Grumman**	6.12

[1] Ranked sixth in the motor vehicles and parts industry last year.

HOW COMPANIES RANK IN 25 INDUSTRIES

Apparel

Included in the survey for the first time, the apparel industry is led by jeans makers Levi Strauss and VF (its brand is Lee). Gulf & Western now gets more revenue from apparel and hosiery than from other products. The company has sold off its investment portfolio and some divisions, but still ranks lowest in the industry on asset management.

Rank[1]	Company	Score
1	**Levi Strauss**	7.54
2	**VF**	7.39
3	**Hartmarx**	6.96
4	**Interco**	6.69
5	**Warnaco**	6.62
6	**Cluett Peabody**	6.09
7	**Palm Beach**	5.83
8	**Blue Bell**	5.72[2]
9	**Gulf & Western Industries**[3]	5.72[2]
10	**Kellwood**	5.36

Beverages

In another industry surveyed for the first time, Anheuser-Busch scores highest on five attributes of reputation, including product quality (for which the maker of Budweiser and Michelob is third among all 250 companies surveyed). Coca-Cola was judged strongest on investment value and financial soundness, PepsiCo on innovativeness.

Rank[1]	Company	Score
1	**Anheuser-Busch**	7.91
2	**Coca-Cola**	7.87
3	**PepsiCo**	7.05
4	**G. Heileman Brewing**	6.88
5	**Joseph E. Seagram & Sons**	6.70
6	**Brown-Forman Distillers**	6.67
7	**General Cinema**	6.61
8	**Heublein**[4]	6.09
9	**Adolph Coors**	6.06
10	**Pabst Brewing**	4.57

Chemicals

Du Pont scores highest among chemical companies on six attributes, but only fourth on wise use of assets—a category won by Monsanto, which was also judged first on financial soundness. If only security analysts had voted, Monsanto would have been No. 1. Hercules was not quite large enough to be included in last year's survey.

Rank	Last Year	Company	Score
1	1	**Du Pont**	7.41
2	3	**Monsanto**	6.88
3	2	**Dow Chemical**	6.61
4	–	**Hercules**[5]	6.26
5	4	**Union Carbide**	6.13
6	8	**American Cyanamid**	5.97
7	7	**W.R. Grace**	5.75
8	9	**Allied**	5.59
9	–	**FMC**[6]	5.57
10	10	**Celanese**	5.08

Commercial banking

Citicorp and BankAmerica are the biggest U.S. banks, but BankAmerica lags behind its larger rival in the eyes of their peers. BankAmerica scores at the top on just one attribute: community responsibility. Citicorp is first on innovativeness—one analyst says it "will try damn near anything." J.P. Morgan leads on all other attributes.

Rank	Last Year	Company	Score
1	1	**J.P. Morgan**	7.62
2	2	**Citicorp**	7.37
3	–	**Security Pacific**[5]	6.82
4	5	**Bankers Trust New York**	6.55
5	4	**First Interstate Bancorp**	6.23
6	3	**BankAmerica**	6.17
7	7	**Manufacturers Hanover**	6.12
8	6	**Chemical New York**	6.11
9	9	**Chase Manhattan**	5.67
10	10	**Continental Illinois**	4.89

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[1] This industry was not surveyed last year.
[2] Tie. Blue Bell scores higher than G&W on five of eight attributes.
[3] Ranked seventh in the metal products industry last year.
[4] Wholly owned by R.J. Reynolds Industries.
[5] Not ranked last year.
[6] Ranked eighth in the industrial and farm equipment industry last year.

HOW COMPANIES RANK IN 25 INDUSTRIES

Diversified financial

This is the first outing for two companies in an otherwise little-changed group: American General, which joined the ranks of the ten largest diversified financial companies, and Cigna. Cigna was formed by the merger of Connecticut General (third on the life insurance list) and INA (sixth last year on the diversified financial list).

Rank	Last Year	Company	Score
1	1	**Merrill Lynch**	7.49
2	2	**American Express**	7.44
3	3	**First Boston**	7.05
4	–	**American General**[1]	6.32
5	5	**Travelers Corp.**	6.18
6	4	**Aetna Life & Casualty**	6.16
7	–	**Cigna**[1]	6.05
8	9	**Federal Natl. Mortgage Assn.**	5.90
9	8	**Great Western Financial**	5.86
10	10	**H.F. Ahmanson**	5.59

Diversified services

The most admired company in this group last year, American Hospital Supply, is no longer among the industry's ten largest. Phibro-Salomon, a commodities and securities trader, scores highest on every attribute but investment value (Halliburton, oil field services, is No. 1) and community responsibility (Super Valu Stores).

Rank	Last Year	Company	Score
1	2	**Phibro-Salomon**	7.08
2	3	**Halliburton**	6.83
3	4	**Super Valu Stores**	6.73
4	5	**Fluor**	6.38
5	7	**McKesson**	6.29
6	6	**Fleming Companies**	6.17
7	8	**CBS**	6.09
8	–	**RCA**[2]	5.47
9	–	**City Investing**[1]	5.42
10	–	**Farmland Industries**[1]	5.36

Electronics, appliances

Motorola, judged first for innovativeness, jumped four places, falling in behind General Electric. (GE is first on all other attributes.) ITT and Litton Industries, both No. 8, not only got identical total scores, but each also was ahead of the other on four attributes—meaning that applying the usual tie breaker left the two still tied.

Rank	Last Year	Company	Score
1	1	**General Electric**	7.96
2	6	**Motorola**	6.98
3	2	**Emerson Electric**	6.87
4	3	**Western Electric**[3]	6.86
5	4	**Raytheon**	6.73
6	5	**Texas Instruments**	6.06
7	7	**Westinghouse Electric**	5.97
8	9	**ITT**	5.84[4]
8	8	**Litton Industries**	5.84[4]
10	–	**Warner Communications**[1]	4.60

Food

General Mills remains the toast of the industry, ranking first on all attributes, and Greyhound—rated here because of Armour Food (now sold)—continues to toil in the scullery. General Foods, scoring high on quality of products and financial soundness, moves up to No. 2, while Beatrice, rated lowest on asset use, sinks three places.

Rank	Last Year	Company	Score
1	1	**General Mills**	7.73
2	5	**General Foods**	6.82
3	4	**Dart & Kraft**	6.62
4	2	**Nabisco Brands**	6.53
5	3	**CPC International**	6.36
6	7	**Ralston Purina**	6.35
7	–	**Consolidated Foods**[1]	6.10
8	8	**Borden**	5.90
9	6	**Beatrice Foods**	5.35
10	10	**Greyhound**	4.91

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[1] Not ranked last year.

[2] Ranked tenth in the electronics and appliances industry last year.

[3] Wholly owned by AT&T.

[4] Tie. Each scores higher than the other on four of eight attributes.

Forest products

Georgia-Pacific slips. International Paper and Champion climb a notch. Again No. 1, Kimberly-Clark scores highest on five attributes. Weyerhaeuser leads on financial soundness, investment value, and community responsibility. Crown Zellerbach bottoms out on seven attributes, Georgia-Pacific on community responsibility.

Rank	Last Year	Company	Score
1	1	**Kimberly-Clark**	6.94
2	2	**Weyerhaeuser**	6.58
3	3	**Boise Cascade**	6.00
4	5	**International Paper**	5.84
5	6	**Champion International**	5.71
6	4	**Georgia-Pacific**	5.61
7	7	**St. Regis**	5.35
8	9	**Scott Paper**	5.33
9	8	**Mead**	5.20
10	10	**Crown Zellerbach**	4.88

Glass, concrete, abrasives, gypsum

Scores of this group, new this year, are skimpy at best: Corning's highest attribute rating, on product quality, is 7.77. Manville scores among the three lowest of 250 companies on four attributes, including financial soundness and investment value, and lowest on environmental responsibility.

Rank[1]	Company	Score
1	**Corning Glass Works**	6.80
2	**PPG Industries**[2]	6.71
3	**Owens-Corning Fiberglas**	6.32
4	**Owens-Illinois**	6.03
5	**Norton**	5.77
6	**U.S. Gypsum**	5.58
7	**Libbey-Owens-Ford**	5.38
8	**Anchor Hocking**	5.29
9	**National Gypsum**	5.03
10	**Manville**	3.87

Industrial, farm equipment

Deere and Caterpillar Tractor swap places at the top this year, with Deere rated first in the industry on five attributes. Caterpillar leads on product quality, Combustion Engineering on financial soundness, and Teledyne on use of assets. Baker wasn't big enough to be ranked last year.

Rank	Last Year	Company	Score
1	2	**Deere**	7.02
2	1	**Caterpillar Tractor**	6.55
3	7	**Teledyne**	6.47[3]
4	6	**Borg-Warner**	6.47[3]
5	5	**Combustion Engineering**	6.35
6	4	**Dresser Industries**	6.17
7	–	**Textron**[4]	6.13
8	–	**Baker International**[5]	5.98
9	10	**Kidde**	5.57[6]
10	9	**Ingersoll-Rand**	5.57[6]

Life insurance

The tenth-largest life insurance company, Northwestern Mutual, is again the most admired. The second largest, Metropolitan, is still the least admired. In between, only John Hancock held its place. This industry is not rated on investment value—all but Aetna, Travelers, Connecticut General, and Teachers are mutual companies.

Rank	Last Year	Company	Score
1	1	**Northwestern Mutual**	7.29
2	3	**Prudential**	6.91
3	4	**Connecticut General Life**[7]	6.48
4	2	**Aetna Life**[8]	6.40
5	6	**Travelers**[9]	6.32
6	5	**Teachers Insurance & Annuity**	6.05
7	7	**John Hancock Mutual**	6.04
8	9	**New York Life**	6.02
9	8	**Equitable Life Assurance**	5.80
10	10	**Metropolitan**	5.66

[1] This industry was not surveyed last year.
[2] Ranked fifth in the chemicals industry last year.
[3] Tie. Teledyne scores higher than Borg-Warner on five of eight attributes.
[4] Ranked second in the metal products industry last year.
[5] Not ranked last year.
[6] Tie. Kidde scores higher than Ingersoll-Rand on five of eight attributes.
[7] Wholly owned by Cigna.
[8] Wholly owned by Aetna Life & Casualty.
[9] Wholly owned by Travelers Corp.

HOW COMPANIES RANK IN 25 INDUSTRIES

Metal manufacturing

Alcoa is once again first in the eyes of its industry: the company rates at the top on every attribute of reputation. Alcoa's highest score is for quality of products or services. Republic Steel, 245th among the 250 companies surveyed, ranks lowest in its industry on all counts; last year it was lowest on only five attributes.

Rank	Last Year	Company	Score
1	1	**Alcoa**	6.90
2	4	**Inland Steel**	5.89
3	3	**Northwest Industries**	5.73
4	5	**Reynolds Metals**	5.63
5	2	**Armco**	5.59
6	6	**LTV**	5.42
7	9	**National Steel**[1]	5.12
8	–	**Kaiser Aluminum & Chemical**[2]	5.08
9	7	**Bethlehem Steel**	5.02
10	10	**Republic Steel**	4.47

Metal products

Third largest of the companies in this group, Gillette—here for its razor blades—rates highest on every attribute, as it did last year. Chromalloy American is last for the second year, scoring lowest on five attributes. National Can is at the bottom on three: investment value, innovativeness, and ability to attract, develop, and keep talented people.

Rank	Last Year	Company	Score
1	1	**Gillette**	7.08
2	–	**Parker-Hannifin**[2]	6.47
3	3	**Continental Group**	6.25
4	5	**Foster Wheeler**	6.21
5	–	**CBI Industries**[2]	6.09
6	9	**American Can**	5.92
7	–	**Harsco**[2]	5.87
8	–	**Crown Cork & Seal**[2]	5.80
9	8	**National Can**	5.47
10	10	**Chromalloy American**	5.32

Mining, crude-oil production

These companies all aim to extract riches from mines or wells, and for many of them 1983 was not the best of years. Mitchell Energy ranks highest on all attributes of reputation except financial soundness and quality of products or services; on those attributes Superior Oil is judged best.

Rank[3]	Company	Score
1	**Mitchell Energy & Development**	6.71
2	**Freeport-McMoRan**	6.18
3	**Superior Oil**	6.17
4	**Vulcan Materials**	6.16
5	**Moore McCormack Resources**	6.03
6	**Natomas**[4]	5.40
7	**Louisiana Land & Exploration**	5.38
8	**Westmoreland Coal**	5.21
9	**Occidental Petroleum**	5.15
10	**Amax**	4.85

Motor vehicles and parts

General Motors, Ford, and Chrysler have edged up in the eyes of their peers, but TRW leads the industry again. TRW scores highest on all attributes except quality of management and innovativeness (Lazarus-like, Chrysler is higher on both) and financial soundness (General Motors).

Rank	Last Year	Company	Score
1	1	**TRW**	7.13
2	2	**Dana**	6.76
3	4	**General Motors**	6.63
4	–	**Paccar**[2]	6.44
5	3	**Eaton**	6.41
6	7	**Ford Motor**	5.95
7	8	**Chrysler**	5.91
8	–	**Fruehauf**[2]	5.14
9	9	**American Motors**	4.21
10	10	**International Harvester**	3.64

[1] Wholly owned by National Intergroup.

[2] Not ranked last year.

[3] This industry was not surveyed last year.

[4] Wholly owned by Diamond Shamrock.

Office equipment, computers

For IBM the true PC, or peculiar condition, is that it failed to score among the top three of the 250 companies for innovativeness and product quality. In its industry, IBM is second to Hewlett-Packard on these two attributes as well as on ability to attract, develop, and keep talented people.

Rank	Last Year	Company	Score
1	1	**IBM**	8.53
2	–	**Hewlett-Packard**[1]	8.24
3	2	**Digital Equipment**	7.24
4	3	**Wang Laboratories**	7.22
5	6	**NCR**	6.29
6	5	**Control Data**	5.98
7	7	**Honeywell**	5.79
8	8	**Pitney Bowes**	5.24
9	10	**Sperry**	5.16
10	9	**Burroughs**	5.04

Pharmaceuticals

Only Upjohn and Warner-Lambert, at the bottom of the heap, did not change position from last year to this, but none of the moves was large. Merck and Johnson & Johnson switched positions, but are still neck and neck. Each scores highest in the industry on four attributes; both are among the most admired of the 250 companies surveyed.

Rank	Last Year	Company	Score
1	2	**Merck**	8.17
2	1	**Johnson & Johnson**	8.15
3	4	**Abbott Laboratories**	7.40
4	6	**Pfizer**	7.33
5	3	**SmithKline Beckman**	7.26
6	5	**Bristol-Myers**	7.25
7	8	**American Home Products**	6.95
8	7	**Eli Lilly**	6.80
9	9	**Upjohn**	6.33
10	10	**Warner-Lambert**	5.79

Petroleum refining

Texaco moves up two places this year, ahead of Gulf and this industry's newcomer, U.S. Steel, which ranks last on all attributes. Shell scores highest on four attributes, while Atlantic Richfield leads on three (innovativeness, investment value, and community responsibility). The biggest of all, Exxon, is tops for financial soundness.

Rank	Last Year	Company	Score
1	1	**Shell Oil**	7.48
2	3	**Standard Oil (Indiana)**	7.36
3	2	**Atlantic Richfield**	7.31
4	4	**Standard Oil of California**	7.11
5	5	**Exxon**	7.01
6	6	**Mobil**	6.52
7	7	**Phillips Petroleum**	6.14
8	10	**Texaco**	5.84
9	9	**Gulf Oil**	5.60
10	–	**U.S. Steel**[2]	4.69

Precision instruments

Scoring highest in its industry on five attributes, including innovativeness, 3M just missed sealing a place among the ten most admired companies. It ranks 11th overall on the survey. Eastman Kodak rates highest of the group on quality of products or services, financial soundness, and community and environmental responsibility.

Rank	Last Year	Company	Score
1	3	**3M**	7.74
2	2	**Eastman Kodak**	7.66
3	4	**Perkin-Elmer**	7.12
4	–	**EG&G**[3]	7.04
5	5	**Tektronix**	6.65
6	7	**General Signal**	6.25[4]
7	6	**Becton Dickinson**	6.25[4]
8	9	**Polaroid**	6.18
9	8	**Xerox**	6.15
10	10	**Lear Siegler**	6.05

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[1] Ranked first in the precision instruments industry last year.

[2] Ranked eighth in the metal manufacturing industry last year.

[3] Not ranked last year.

[4] Tie. General Signal scores higher than Becton Dickinson on four attributes and ties on another.

HOW COMPANIES RANK IN 25 INDUSTRIES

Publishing, printing

Executives, directors, and analysts of this industry, ranked for the first time, seem to speak no evil of one another—the group's median score (7.37) is the highest of any industry surveyed. Tribune Co., which went public in October, was rated last on all attributes, including investment value. R.R. Donnelley is the biggest U.S. printer.

Rank[1]	Company	Score
1	**Dow Jones**	8.35
2	**Time Inc.**	7.99
3	**Gannett**	7.47
4	**McGraw-Hill**	7.43
5	**Knight-Ridder Newspapers**	7.40
6	**Times Mirror**	7.33
7	**New York Times**	7.31
8	**R.R. Donnelley & Sons**	7.13
9	**Washington Post**	6.89
10	**Tribune**	5.76

Retailing

Sears rose three ranks, while Kroger, J.C. Penney, and four other retailers each slipped one. Federated, still leading, rates first on three attributes, including product quality. Sears was judged best on investment value and asset management, Kroger on management and innovativeness, and Penney on community responsibility.

Rank	Last Year	Company	Score
1	1	**Federated Department Stores**	7.03
2	5	**Sears Roebuck**	7.00
3	2	**Kroger**	6.94
4	3	**J.C. Penney**	6.80
5	4	**Lucky Stores**	6.46
6	–	**Winn-Dixie Stores**[2]	6.43
7	6	**Safeway Stores**	6.36
8	7	**American Stores**	6.17
9	8	**K mart**	6.01
10	–	**Household International**[2]	5.82

Transportation

In this group, as in the electronics and appliances group, there is a tie that can't be broken: two railroads, Burlington Northern and CSX, both score 6.55 and each rates ahead of the other on four attributes. Eastern rates lowest of the group on all attributes except community responsibility; Pan Am scores lowest on that attribute.

Rank	Last Year	Company	Score
1	2	**United Parcel Service**	7.00
2	1	**Delta Air Lines**	6.67
3	–	**Norfolk Southern**[2]	6.64
4	5	**Burlington Northern**	6.55[3]
4	3	**CSX**	6.55[3]
6	6	**AMR (American Airlines)**	5.94
7	7	**UAL**	5.86
8	8	**Trans World**	4.58
9	10	**Pan American World Airways**	4.19
10	9	**Eastern Air Lines**	3.85

Utilities

AT&T, facing divestiture, once again ranks highest of any utility on all eight attributes of reputation; its lowest score—an impressive 7.23—was for long-term investment value. But the company did not make this year's list of most admired U.S. corporations—nor does it rank among the top three of the 250 on any attribute.

Rank	Last Year	Company	Score
1	1	**AT&T**	7.62
2	2	**Texas Utilities**	6.83
3	3	**Southern California Edison**	6.59
4	4	**GTE**	6.48
5	5	**Commonwealth Edison**	6.34
6	7	**Pacific Gas & Electric**	6.05
7	8	**Southern Co.**	5.91
8	6	**American Electric Power**	5.86
9	–	**Public Service Electric & Gas**[2]	5.79
10	10	**Middle South Utilities**	5.56

[1] This industry was not surveyed last year.
[2] Not ranked last year.
[3] Tie. Each scores higher than the other on four of eight attributes.

LABOR/STEVEN FLAX

PAY CUTS BEFORE THE JOB EVEN STARTS

■ To get labor costs down, companies are reviving a controversial device—the two-tier contract. The wages of future workers are lower than those of current workers in the same jobs. Since the so-called unborn workers can't squawk, such cuts are easy to make. But some labor relations experts warn that two-tier deals eventually could lead to low morale and strife.

Two-tier contracts go back to the Thirties. But they have never been as numerous or covered as many workers as now. "The number of two-tier contracts was minuscule before," says Alvin Bauman of the Bureau of Labor Statistics. Big contracts have been negotiated lately in transportation, light manufacturing, construction, retailing, and other industries (see chart). Some contracts cover thousands of employees and have spread across whole industries. Machinists at the major aircraft makers—Lockheed, McDonnell Douglas, and Boeing—have all signed two-tier agreements.

The amount companies can save from such deals is hard to estimate, since it depends on how fast current employees will be replaced by new ones. In retailing, for instance, turnover can be so great that the economic effect shows up almost immediately. But companies in hard-hit industries won't be doing much hiring because they have to recall laid-off workers first, usually at the higher wage rates. Some companies have been providing incentives for older workers to take early retirement. American Airlines, for one, has just started offering golden handshakes to high-priced senior pilots and high-level executives.

THE CLIMATE for such deals is right because labor is in oversupply and many companies are still limping out of the recession. When a negotiator for the Machinists asked his counterpart at McDonnell Douglas why the company was pushing so hard for a two-tier structure, he was told: "Because the company can get it *this* year and maybe it couldn't three years from now." Two-tier agreements are also easier to get than straight pay cuts for current workers. Kelley H. Hantz, vice president for labor relations at Lockheed Corp., calls pay cuts "a root canal job that many companies wouldn't want to try." When a company is tough enough, however, it can hammer out pay cuts for present and future workers alike (see box, next page).

Two-tier contracts take a variety of forms. In some, wages are reduced for almost all labor grades or job categories; others apply to only a few specialties. In some agreements new workers, though they start at low pay rates, can eventually rise to the wages older employees earn. In others, parity between old and new employees is ruled out forever—ensuring that these companies will have a disadvantaged class of employees working side by side with a privileged one until all the high-priced workers retire.

Though cutting pay for future workers instead of present ones seems easier for

COMPANY	UNION (Number of workers covered by contract)	ENTRY-LEVEL WAGE DIFFERENTIAL New contract	 Old contract
Boeing	**International Association of Machinists & Aerospace Workers** (26,000)	**$6.70 per hour**	**$11.38 per hour**
Lockheed	**International Association of Machinists & Aerospace Workers** (23,000)	**$6 per hour**	**$8.64 per hour**
McDonnell Douglas	**International Association of Machinists & Aerospace Workers** (3,400)	**$6.73 per hour**	**$9.36 per hour**
Giant Food	**United Food & Commercial Workers International** (12,000)	**$5 per hour**	**$6.95 per hour**
Safeway Stores	**United Food & Commercial Workers International** (6,300)	**$5 per hour**	**$6.95 per hour**
American Airlines	**Allied Pilots Association** (4,000)	**$18,000 per year**	**$36,000 per year**
Briggs & Stratton	**Allied Industrial Workers of America** (8,000)	**$5.50 per hour**	**$8 per hour**
Dow Chemical	**United Steelworkers of America** (2,600)	**$6.895 per hour**	**$7.08 per hour**

Creating a Class System for Workers

Corporations out to lower labor costs find that the easiest pay cuts to make are for employees yet to be hired. Above is a handful of recent major two-tier settlements. Except for the pilots at American Airlines, all wage rates are for companies' lowest job category or labor grade. How much can be saved, and how quickly, depends on how rapidly a company's work force turns over.

union leaders to accept, they are split on whether to go along with two-tier. "It's an 'I'm going to get mine and to hell with everybody else' system," says Gary E. McAdams, assistant director of research of the Electronic Workers. "We regard it as rape." But last summer Jackie Presser put his prestige as head of the Teamsters on the line by urging his members to approve a two-tier deal that would have allowed trucking companies to bring back some of their 100,000 laid-off workers at reduced wages. "The idea was to get our members back to work and covered by all our health plans," says a union spokesman.

Workers wind up on both sides of the issue too. The Teamsters' membership resoundingly rejected Presser's proposal. But at Boeing, 80% of the Machinists' local members voted in favor of a two-tier deal even though the union's national reps had recommended against it. Says William E. Bittle, an economist for the Machinists, "The longer you've been unemployed, the more grateful you are for the job once you get back." Some 7,000 Boeing workers are still laid off.

SOME of the pay cuts companies have demanded have been enormous. The Packard Electric Division of General Motors in Warren, Ohio, proposed a combination of salary and fringes of $6 an hour for new final-assembly workers. Current employees get $19.50 for the same job. "It's for youngsters just out of school or housewives who want a second income," says Packard public relations director Mary Jane Taylor. The proposal was voted down last August.

American Airlines' new pay structure reduces wages for new employees in almost every job category from janitor to captain. New pilots now start at $18,000 a year, excluding fringe benefits, instead of $36,000. Pilots with 12 years' experience, the highest seniority level, will top out at $55,000, vs. $110,000 now. Average salaries for new flight attendants will range from $12,000 to $16,000 a year, compared with $24,000 to $27,000 currently. For many new employees, the pay differential is impossible to bridge. Only baggage handlers and mechanics can work their way up to the old maximum pay levels. To win acceptance of the two-tier proposal, American offered current employees security for life.

Charles A. Pasciuto, vice president for employee relations at American, explains the company's plan by pointing to the labor cost advantages of new, non-union competitors. Out of every $1 in revenue they take in, he says, the new airlines pay workers 20 cents to 25 cents, vs. 39 cents at American. The two-tier plan is designed to reduce American's labor costs to 30 cents per dollar of revenue in the next ten years. "The established, full-service carriers could not afford to pay the wages that were the result of bargaining during an era of airline regulation," Pasciuto says.

Pasciuto denies that this plan creates separate and unequal classes of workers at American. "Even today we have people doing the same work for different wages because of seniority," he says. "We don't expect dissatisfaction because our workers are proud." He also thinks new employees should "thank management and our unions for coming up with agreements that enable American Airlines to grow and create their job opportunities." Whether American's newcomers will be able to manage that mix of pride and gratitude remains to be seen.

Even if the plans work well for a while, what about the future? What is going to prevent new hires from looking at older workers and their union leaders and thinking, why'd you do this to me? Labor relations executives like Pasciuto think that such dissatisfaction will be prevented by attrition and turnover among older workers.

Other businessmen and labor relations

"I DIDN'T TRY TO BREAK THE UNION"

BUD LEE

Greyhound Chairman John Teets *thinks his bus line is competitive again.*

■ Greyhound Corp. Chairman John W. Teets takes offense at being called a union buster. Yet when the Amalgamated Transit Union rejected his demands for wage cuts and struck the largest U.S. bus line last November, Teets was ready with carefully laid plans to break the strike. He was convinced he had to reduce labor costs to compete with Trailways and discount airlines. Scores of strikers were arrested, and a picket was killed by a bus operated by a non-union driver. By threatening to replace all 12,700 union members, Teets won a tentative settlement that cuts salaries and benefits by an average of 14% for current employees and 19% for new hires. A born-again Christian and onetime body-building instructor, Teets, 50, says he jogs and climbs 19 flights of stairs a day. But he attributes his toughness to having surmounted tragedies in his life—in 1964 his brother and first wife died and the restaurant he was managing burned. After that he found God and Greyhound.

RESEARCH ASSOCIATE *Jaclyn Fierman*

consultants aren't so sure. Roger D. Olson, vice president of labor relations for Giant Food, has lived with a two-tier plan for 18 months in Giant's stores in the Baltimore area. In that time the labor force working under the lower pay scale grew to 40% of all workers there. Olson says that worker dissatisfaction over salary discrimination could be a problem when the contract comes up for renewal in three years: "That's the monster we're building." Professor Herbert R. Northrup of the Wharton School contends that two-tier contracts could lead to "lots of intraunion strife that has the potential of splitting a union."

The tension could get ugly. Dan Glasner, a senior consultant at Hay Associates, a management consulting firm, points out that if the lower tiers become increasingly black, Hispanic, or female while upper tiers remain white and male, charges of discrimination and lawsuits could result. Legal experts hope that if this happens, the courts will understand the purpose of two-tier plans. "Workers will have the burden of proving that two-tier pacts were done with the intention to discriminate against one sex or minority group," says Andrew Kramer, a labor-law specialist at Jones Day Reavis & Pogue in Washington. Adds Professor Bernard Meltzer of the University of Chicago Law School, "If such plans can be shown to have a serious business justification rather than being a covert attempt by one group to do in another, I'd be surprised if responsible courts failed to uphold them."

■ The risk of two-tier contracts is that the sense of unfairness among the workers could hurt productivity. But when pay scales get so high companies can't compete with their U.S. counterparts, let alone the Taiwanese or Koreans, risks must be taken. Failing to reduce costs could eliminate everybody's job.

Just before rank-and-file employees were to vote on the new contract, Teets spoke with FORTUNE associate editor Gwen Kinkead about the company's strategy during the strike. Excerpts:

On why the company rejected the union's offer to extend the previous contract a year: Greyhound was no longer the lowest-cost operator. We felt this for a long time but didn't know it for sure until we went into a price war last year with Trailways and lost $16 million. At that time we asked the union for the same contract they gave Trailways. They refused. Our contract was 30% higher than that of Trailways, and we saw what could happen to us if we didn't get parity.

On preparations for the strike: We went into great detail. I learned long ago that you have to have plans, and backup plans. I try to plan everything that I can have some influence over down to the details. The No. 1 assumption was that we'd have to operate during the strike. Greyhound had never done that before. Lawyers were designated in 150 cities to go to court to get temporary restraining orders or injunctions where necessary. We trained 500 new drivers. We dug holes in the ground so that rent-a-fences could be put up overnight around our buses. We moved 300 executives to the field to help, and kept 75 key ones here to man the command center 24 hours a day. We had hand-held video cameras at every terminal so that if anyone damaged the property we didn't get into arguments—"Yes, you did," "No, I didn't." It's a federal violation to interfere with a moving intercity bus, and we wanted hard evidence.

On his reputation with labor as a union buster: I didn't try to break the union. If I had wanted to bust it, I'd have taken a whole different tack. We'd have said, "You have to take a 30% cut or else."

On hiring non-union workers: I don't consider that union busting. I consider that negotiating.

On why the union settled: The union misunderstood our resolve. They thought we would have to sign a contract by Christmas because, after all, Greyhound Lines had never been down on Christmas in its entire history. We'd already written Christmas off. We didn't go back to the bargaining table [after the union overwhelmingly turned down a 7.8% wage cut on November 29]. For the first time they realized that we didn't really care about a Christmas or a New Year's settlement, and we were looking long-range.

On the strike's cost: Our loss will exceed $25 million. It may be $35 million. We don't know exactly now because our accounting offices have been on strike too. If the strike had lingered on and not reached a settlement, it could have cost us as much as $50 million.

On the 1,300 employees hired during the strike: They'll remain as employees, though they'll be at the end of the seniority roster. We'll go back into the tour business, using some of these employees. We used to be No. 1 in tours, but had to get out of the business because we weren't competitive.

On who won the strike: The union employees still have their jobs and that's a victory because we were going to operate with all new employees—65,000 people applied for their jobs for less money. It's also a victory for us. We wanted parity with other major bus lines, and they voted parity in. [In the first year of the three-year contract, however, Greyhound says its wages and benefits will still be 18% to 35% higher than other major bus companies'.]

On how the two-tier contract makes Greyhound more competitive: If your contract is 30% to 50% higher than the competition's and you recognize that your employees are not going to take a 30% cut, which we never asked for, what's a compromise? So we agreed to a 14% cut for present employees and 19% for new ones. Turnover is 10% to 12% a year. Three years from now we'll have 30% new employees working at the much lower salary and 30% of the older employees will have retired at the higher salary. Taken together we have what we sought.

On cutting fares after the strike: Fares will definitely be lowered. On some routes they'll stay the same, on others they'll drop 15% to 20%, and on others as much as 30%. I doubt we'll meet airlines that are discounting below their cost because we know they can't do that for long.

On the attitude of striking workers returning to work: It could be there'll be resentment, or it could be that the economic realities will have sunk in. It's not the end of the day. They'll be back to the bargaining table in three years, and it'll be better for them to be working for a company that's profitable.

JANUARY 23, 1984

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FORTUNE

SECRETS OF MARC RICH

DEALS OF THE YEAR

MICROSOFT'S DRIVE TO DOMINATE SOFTWARE

WHERE MGM, THE NCAA, AND JERRY FALWELL FIGHT FOR CASH

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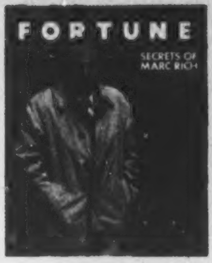

Wanted in the U.S. on charges of tax fraud, big-time commodities trader Marc Rich is still dealing in Zug, Switzerland, where this picture was taken by telephoto lens. For a behind-the-curtains report on his past triumphs and present troubles, see page 44.

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BOOKS AND IDEAS
A business genius who thinks he's a social philosopher. By Daniel Seligman

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DEALS/DANIEL P. WIENER

DEALS OF THE YEAR

■ The movement away from conglomeration was evident in 1983's grand-scale business deals. Corporate acquirers tended to go for the industries they knew best—their own. Among the mergers and acquisitions in FORTUNE's directory of the year's biggest deals, same-industry combinations predominated. The old diversification pattern turned up in only two deals.

One notable feature of the year's biggest deals is activity among railroad holding companies. The biggest deal of all was the merger of Santa Fe Industries and Southern Pacific, completed less than ten days before the year ran out. The latter company's shareholders received $2.3 billion. Southern Pacific appears on the list a second time with the $727-million sale of its communications subsidiaries to GTE (deal No. 22). That's deglomeration. Two railroad holding companies with large reserves of natural resources acquired more. CSX paid over $1 billion for Texas Gas Resources (deal No. 6), and Burlington Northern acquired most of El Paso's stock in two transactions totaling $1.2 billion (No. 29 and No. 36).

The total value of 1983's 50 biggest deals came to $38.4 billion, down from $48.2 billion the year before. The mix of corporate combinations and securities offerings changed dramatically from 1982 to 1983. The number of corporate linkings fell from 33 to 20, while the number of offerings rose from 17 to 30. The notes on page 58 explain the criteria for the list.

Those 30 securities offerings raised some $20 billion in the public markets, up from the corresponding figure of $13.7 billion for 1982. Because of the huge scale of its mortgage buying, the Federal National Mortgage Association—the largest diversified financial company in the U.S.—appears no fewer than 22 times on the 1983 list, with sales of more than $14 billion of debentures.

Four of Fannie Mae's offerings hit the billion-dollar mark, a stratosphere that few businesses ever reach. But two telecommunications giants did make it this time, and both offerings set all-time records on Wall Street. In a prelude to its breakup, AT&T's final trip to the stock market raised almost $1.2 billion in the largest stock offering ever (No. 4). Competitor MCI Communications arranged the largest package of notes and warrants ever offered directly to the public—$1 billion (No. 8). Yet another Wall Street record was set by Merrill Lynch's initial offering of stock in a new high-tech investment fund (No. 30). It turned out to be the largest mutual fund offering so far, raising more than $600 million before the deal was closed.

AMONG MERGERS and acquisitions, oil and gas deals were plentiful in 1983, as in past years—in ten deals, at least one of the companies was involved in oil or gas in some way. Already big financial services companies continued to grow. American Express purchased the French, Swiss, and other non-U.S. banking operations of Edmond Safra's Trade Development Bank (No. 33). Financial Corp. of America acquired an even heftier California outfit, First Charter Financial, creating the nation's largest savings and loan association (No. 16).

A striking exception to the pattern of same-industry combinations was Xerox's purchase of Crum & Forster for $1.6 billion (No. 2). The deal was announced in September 1982, but various delays held up completion until last January. The deal was "an aberration for 1983," says Barry Friedberg, a managing director at A.G. Becker Paribas. "It's possible that Xerox fears the inroads the Japanese have made in the copier market and wanted to get into other businesses."

As usual, the financial intermediaries that helped with the deals fared well. Their total fees from all 50 topped $260 million, up from $221 million in 1982. In fees from mergers and acquisitions, Goldman Sachs got the most, $22 million. First Boston came in second, with $15 million. In 1982 First Boston was No. 1 and Goldman Sachs No. 2.

Some big deals that made news in 1983 do not appear on the list because consummation was still pending at year-end. One deal-in-progress that would have ranked near the top is the purchase of CIT Financial by Manufacturers Hanover for $1.5 billion. American Express is in the process of buying Investors Diversified Services, and after more than a year of negotiations, General Electric may finally complete the sale of its mining subsidiary, Utah International. See next year's directory.

ROBERTO BROSAN

BIGGEST DEALS OF 1983

▭ MERGERS AND ACQUISITIONS ▨ DEBT AND EQUITY OFFERINGS

Rank	Value of deal (000)	Percent of book value	Transaction	Companies	Financial intermediaries	Fee (000)	Fee as percent of deal
1	**SANTA FE INDUSTRIES (transportation and natural resources) merges with SOUTHERN PACIFIC (transportation and natural resources)**						
	2,308,804[1]	86%	Merger by exchange of common stock to form Santa Fe Southern Pacific, December 23	Santa Fe	Salomon Brothers	$1,500	.06%
				Southern Pacific	Morgan Stanley	$6,721	.29%
2	**XEROX acquires CRUM & FORSTER (insurance)**						
	$1,637,255	156%	Acquisition for cash, common and preferred stock, January 11	Xerox	Goldman Sachs Salomon Brothers	$2,500 $2,500	.15% .15%
				Crum & Forster	First Boston	$575	.04%
3	**DIAMOND SHAMROCK (oil and gas) acquires NATOMAS (oil and geothermal energy)**						
	$1,516,775	N.A.	Acquisition for common and preferred stock, August 31[2]	Diamond Shamrock	Kidder Peabody	$4,000	.26%
				Natomas	Lazard Frères Salomon Brothers	$3,000 $3,000	.20% .20%
4	**AMERICAN TELEPHONE & TELEGRAPH sells stock**						
	$1,166,000	97%	Offering of 17.6 million shares of common stock at $66.25, March 10	AT&T	Morgan Stanley*, Goldman Sachs, E.F. Hutton, Merrill Lynch White Weld, Salomon Brothers	$22,880	1.96%
5	**PHILLIPS PETROLEUM acquires GENERAL AMERICAN OIL CO. OF TEXAS**						
	$1,140,549	232%	Acquisition for cash, March 8	Phillips	Goldman Sachs	$4,000°	.35%
				General American	First Boston Kidder Peabody Blyth Eastman Paine Webber	$5,700 $1,240 $750[3]	.50% .11% .07%
6	**CSX (transportation and natural resources) acquires TEXAS GAS RESOURCES (transportation and natural resources)**						
	$1,053,465	157%	Acquisition for cash and common stock, October 1	CSX	First Boston	$3,300	.31%
				Texas Gas	Goldman Sachs	$3,325	.32%
7	**SIGNAL (multi-industry) acquires WHEELABRATOR-FRYE (engineering and manufacturing)**						
	$1,041,078	129%	Acquisition for common stock, February 1	Signal	None	—	—
				Wheelabrator-Frye	Lazard Frères	$2,500	.24%
8	**FEDERAL NATIONAL MORTGAGE ASSOCIATION (mortgage holder) sells debentures**						
	$1,000,000		Offering of 10.9% debentures due 1987, February 10	Federal National Mortgage Association	Various dealers	$2,000	.20%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$1,000,000		Offering of 10.4% debentures due 1988, March 10	Federal National Mortgage Association	Various dealers	$1,850	.19%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$1,000,000		Offering of 10.45% debentures due 1988, April 11	Federal National Mortgage Association	Various dealers	$1,820	.18%
	MCI COMMUNICATIONS (telecommunications) sells notes and warrants						
	$1,000,000		Offering of one million units consisting of $1,000 subordinated notes at 9.5% due 1993 and 18 warrants for common stock at one share per warrant, July 29	MCI	Drexel Burnham Lambert*, Shearson/American Express	$13,750	1.38%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$1,000,000		Offering of 11.2% debentures due 1987, October 11	Federal National Mortgage Association	Various dealers	$1,689	.17%
13	**ESMARK (food and consumer products) acquires NORTON SIMON (food and consumer products)**						
	$977,362	158%	Acquisition for cash and preferred stock, September 9	Esmark	A.G. Becker Paribas Oppenheimer	$1,500 $1,500	.15% .15%
				Norton Simon	Goldman Sachs Lazard Frères Salomon Brothers	$2,500 $2,500 $2,500	.26% .26% .26%
14	**SOUTHLAND (convenience retailing) acquires CITGO PETROLEUM [Occidental Petroleum]**						
	$938,826	N.A.	Acquisition for cash and common stock, August 31	Southland	Dean Witter Reynolds	$1,500	.16%
				Occidental Petroleum	Goldman Sachs	N.A.	N.A.

°Fortune estimate. *Lead manager. N.A. Not available.

[1] Valued as if Southern Pacific were the acquired firm.

[2] Does not include Natomas transportation and real estate subsidiaries that were spun off to Natomas shareholders.

[3] For advice during unsuccessful tender offer by Mesa Petroleum.

BIGGEST DEALS OF 1983

Rank	Value of deal (000)	Percent of book value	Transaction	Companies	Financial intermediaries	Fee (000)	Fee as percent of deal
15	**WILLIAMS (fertilizer, energy, and metals) acquires NORTHWEST ENERGY (natural gas)**						
	$876,720[4]	193%	Acquisition for cash, November 30	Williams	Smith Barney Harris Upham	$4,000	.46%
				Northwest Energy	Goldman Sachs	$5,000[e]	.57%
16	**FINANCIAL CORPORATION OF AMERICA (financial services) acquires FIRST CHARTER FINANCIAL (financial services)**						
	$851,775	133%	Acquisition for cash, common and preferred stock, August 5	FCA	Bear Stearns	$1,900	.22%
				First Charter	First Boston	$475	.06%
17	**INTERNORTH (oil and gas) acquires BELCO PETROLEUM**						
	$828,973	124%	Acquisition for cash and preferred stock, August 1	InterNorth	Blyth Eastman Paine Webber	$1,000	.12%
				Belco Petroleum	Goldman Sachs	$2,700	.33%
18	**GOODYEAR TIRE & RUBBER acquires CELERON (oil and gas)**						
	$816,933	248%	Acquisition for common stock, June 20	Goodyear	Lehman Brothers Kuhn Loeb Dillon Read	$2,400 $1,000	.29% .12%
				Celeron	Lehman Brothers Kuhn Loeb Merrill Lynch White Weld	$2,400 $800	.29% .10%
19	**FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures**						
	$800,000		Offering of 9.85% debentures due 1987, May 10	Federal National Mortgage Association	Various dealers	$1,278	.16%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$800,000		Offering of 11% debentures due 1986, July 11	Federal National Mortgage Association	Various dealers	$1,125	.14%
21	**CITICORP sells notes**						
	$749,063		Offering of floating-rate notes due 1992, March 3	Citicorp	Salomon Brothers*, Goldman Sachs, Merrill Lynch White Weld	$3,750	.50%
22	**GTE (telecommunications) acquires communications and satellite subsidiaries of SOUTHERN PACIFIC**						
	$727,400	N.A.	Acquisition for cash, June 15	GTE	Lehman Brothers Kuhn Loeb	$350[e]	.05%
				Southern Pacific	Morgan Stanley	$3,200[e]	.44%
23	**FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures**						
	$700,000		Offering of 10.45% debentures due 1988, January 10	Federal National Mortgage Association	Various dealers	$1,400	.20%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$700,000		Offering of 9.9% debentures due 1987, January 18	Federal National Mortgage Association	Various dealers	$1,225	.18%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$700,000		Offering of 10.3% debentures due 1990, May 10	Federal National Mortgage Association	Various dealers	$1,613	.23%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$700,000		Offering of 10.7% debentures due 1987, June 10	Federal National Mortgage Association	Various dealers	$1,033	.15%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$700,000		Offering of 11.55% debentures due 1987, September 12	Federal National Mortgage Association	Various dealers	$1,173	.17%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$700,000		Offering of 10.95% debentures due 1986, November 10	Federal National Mortgage Association	Various dealers	$850	.12%
29	**BURLINGTON NORTHERN (transportation and natural resources) acquires EL PASO (oil and gas)**						
	$664,213	193%	Acquisition of 52% for cash and preferred stock, December 13[5]	Burlington Northern	Shearson/American Express Lehman Brothers Kuhn Loeb	$600 $125	.09% .02%
				El Paso	Salomon Brothers	$1,000	.15%
30	**SCI/TECH HOLDINGS (mutual fund) sells stock**						
	$600,653		Initial offering of 60,065,293 shares of common stock at $10, February 28[6]		Merrill Lynch, Pierce, Fenner & Smith	$39,266	6.54%

[e] Fortune estimate. *Lead manager. N.A. Not available.

[4] Includes $26.72 million paid to Allen & Co. for options on 3.34 million shares of Northwest common stock.

[5] Burlington Northern had previously purchased 48% of El Paso.

[6] Offering was closed on March 31.

Rank	Value of deal (000)	Percent of book value	Transaction	Companies	Financial intermediaries	Fee (000)	Fee as percent of deal
31	**KROGER (retail food and drugs) acquires DILLON COMPANIES (retail food)**						
	$600,186	279%	Acquisition for cash and common stock, January 25	Kroger	Goldman Sachs Blyth Eastman Paine Webber	$2,000 $500	.33% .08%
				Dillon	Merrill Lynch White Weld	$2,749	.46%
32	**FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures**						
	$600,000		Offering of 11.15% debentures due 1987, December 12	Federal National Mortgage Corporation	Various dealers	$855	.14%
33	**AMERICAN EXPRESS acquires the non-US banking business of TRADE DEVELOPMENT BANK HOLDING**						
	$555,355	N.A.	Acquisition for cash, common stock, and common stock warrants, July 25	American Express	None	—	—
				Trade Development Bank	None	—	—
34	**FORT HOWARD PAPER (paper products) acquires MARYLAND CUP (paper products)**						
	$532,985	197%	Acquisition for cash and common stock, August 31	Fort Howard	Morgan Stanley	$2,563	.48%
				Maryland Cup	Lehman Brothers Kuhn Loeb	$2,732	.51%
35	**NEWCO HOLDING (DONALD L. BREN) acquires additional interest in and merges with IRVINE (real estate)**						
	$518,000	N.A.	Acquisition of 51.5% for cash, April 15[7]	Newco	Allen & Co.	N.A.	N.A.
				Irvine	First Boston[8]	$5,300[e]	1.02%
36	**BURLINGTON NORTHERN makes tender offer for EL PASO**						
	$504,000	222%	Cash tender for 39.2%, February 7	Burlington Northern	Shearson/American Express	$3,000	.60%
				El Paso	Merrill Lynch White Weld	$1,800	.36%
37	**FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures**						
	$500,000		Offering of 10.9% debentures due 1993, January 10	Federal National Mortgage Association	Various dealers	$1,500	.30%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 10.95% debentures due 1993, March 10	Federal National Mortgage Association	Various dealers	$1,395	.28%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 10.1% debentures due 1986, March 10	Federal National Mortgage Association	Various dealers	$796	.16%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 10.125% debentures due 1986, April 11	Federal National Mortgage Association	Various dealers	$796	.16%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 10.875% debentures due 1993, April 11	Federal National Mortgage Association	Various dealers	$1,365	.27%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 10.3% debentures due 1988, April 26	Federal National Mortgage Association	Various dealers	$1,000	.20%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 11.7% debentures due 1986, August 10	Federal National Mortgage Association	Various dealers	$750	.15%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$500,000		Offering of 11.7% debentures due 1988, November 10	Federal National Mortgage Association	Various dealers	$970	.19%
45	**CHRYSLER sells stock**						
	$432,250	See footnote[9]	Offering of 26 million shares of common stock at $16.625, March 29	Chrysler	Salomon Brothers*, First Boston*, Lehman Brothers Kuhn Loeb, E.F. Hutton, Merrill Lynch White Weld	$22,880	5.29%
46	**BROWN-FORMAN DISTILLERS (alcoholic beverages) acquires LENOX (china, jewelry, luggage)**						
	$409,291	296%	Acquisition for cash, August 1	Brown-Forman	Morgan Stanley	$2,240	.55%
				Lenox	Kidder Peabody	$2,865	.70%

[e] Fortune estimate. *Lead manager. N.A. Not available.

[7] Bren previously owned 34.5%. He purchased the additional 51.5% from five private investors.

[8] Allen & Co. represented Donald Bren in the purchase of Irvine stock. First Boston rendered an opinion concerning the subsequent merger of Newco and Irvine.

[9] For the quarter ending December 31, 1982, Chrysler common stock had a book value of -$5.61.

BIGGEST DEALS OF 1983

Rank	Value of deal (000)	Percent of book value	Transaction	Companies	Financial intermediaries	Fee (000)	Fee as percent of deal
47	**BANKAMERICA sells preferred stock**						
	$400,000		Offering of four million shares of cumulative adjustable-rate preferred stock, series B at $100 per share, February 14	BankAmerica	Salomon Brothers*, Blyth Eastman Paine Webber*, Goldman Sachs, First Boston, Merrill Lynch White Weld, Dean Witter Reynolds	$8,000	2.0%
	CITICORP sells preferred stock						
	$400,000		Offering of four million shares of adjustable-rate preferred stock, second series at $100 per share, February 18	Citicorp	Goldman Sachs*, First Boston, Merrill Lynch White Weld, Salomon Brothers	$7,200	1.8%
	MCI COMMUNICATIONS sells debentures						
	$400,000		Offering of 7.75% convertible subordinated debentures due 2003, March 11	MCI	Shearson/American Express*, Drexel Burnham Lambert	$6,000	1.5%
	FEDERAL NATIONAL MORTGAGE ASSOCIATION sells debentures						
	$400,000		Offering of 11.75% debentures due 1988, December 12	Federal National Mortgage Association	Various dealers	$760	.19%

*Lead manager.

EXPLANATORY NOTES

Deals eligible for the list include:

1. U.S. public offerings of individual securities (except short-term securities) by domestic and foreign corporations issued under a single prospectus or offering circular.
2. Cash tender offers by domestic corporations or by foreign corporations tendering in the U.S., including those of companies buying in their own stock.
3. Mergers or acquisitions in which the buyer and/or seller is a U.S. company (or part of one). To be eligible, offerings must be effective in 1983 and tender offers must have expired during the year. Mergers and acquisitions are eligible if legally closed during the year or, when not legally closed, if the prospective buyer has paid a portion of the purchase price in cash during the year.

The list excludes short-term financings, government securities, and financings other than public offerings—such as bank borrowings and private placements.

When two companies merge through an exchange of stock to form a new company, the company whose stockholders received the largest share of the new company is treated as the buyer. When the buyer or seller is a subsidiary, the parent's name is given in brackets.

Value of deal Amounts for cash offerings are the total amounts raised; for tenders the total amount paid. All securities issued in acquisitions or mergers are valued at the market price on the date of closing. Exception: when a new company is formed by merger, only those shares issued to stockholders of the smaller company are valued.

Percent of book value Book value calculations indicate the price paid (or amount of equity capital raised) per share as a percentage of the shareholders' equity per share of the acquired company (or issuer) at the end of the last quarter preceding the transaction.

Transaction Dates under this heading are effective dates for offerings, expiration dates for tenders, and closing dates for acquisitions and mergers.

Financial intermediaries For underwritten public offerings, the co-managers are listed and the lead manager is indicated by an asterisk. In the case of acquisitions and mergers, the intermediaries are typically investment banking firms that assisted in the transaction.

Fee The figures represent the amounts charged by the financial intermediaries assisting in the deals. In underwritings, part of the fee is paid to other members of the underwriting syndicate or to dealers other than the co-managers. F

DEALS/IRWIN ROSS

HOW THE CHAMPS DO LEVERAGED BUYOUTS

■ Not the least of the claims of Kohlberg Kravis Roberts & Co., the nation's leading specialist in leveraged buyouts, is that the equity invested in its deals has grown at the extraordinary average annual rate of 62%. Most of the profits are in private companies whose value is fixed by appraisal, but two companies KKR took private in leveraged buyouts later went public again at much loftier share prices—seven times higher in one case and 24 times higher in another.

Normally KKR, an investment banking firm based in New York and San Francisco, does not tout its profitability. Such is the firm's record—and such is the current vogue for leveraged buyouts of industrial corporations—that KKR has little trouble raising money for more and larger deals. But KKR is currently putting together a $1-billion equity pool, its biggest yet, and a little bragging never hurts. The partners started marketing the pool in November and by mid-December had commitments totaling $660 million; they expect to reach their goal in March.

The pool, often called a fund, is not a pot of cash collected in advance. It's an investment partnership with commitments from institutions that participate as limited partners, pledging sums ranging from $15 million to $100 million. KKR, acting as general partner, draws on the commitments at will when it puts together a deal.

A BILLION DOLLARS in equity can support acquisitions costing many times that amount, for huge borrowings are the essence of leveraged buyouts and their great attraction. The ratio of debt to equity can be 4 to 1, as in KKR's biggest recent deal, and as high as 10 to 1. These enormous debt loads are supported solely by the assets and cash flow of the acquired company. Often the assets are mortgaged, and when they are not—as in most of KKR's deals—the lenders prudently encumber the company with various restrictive covenants, such as a pledge not to mortgage the assets elsewhere.

When a deal lives up to its promise, all the players win rich rewards. As a spur to greater effort, the top managers of the acquired company generally get a substantial chunk of equity—indeed, the deals are often called management buyouts. The venture capitalists who put up the risk money get that handsome return KKR boasts about. Lenders earn high interest rates plus "equity kickers"—warrants or common stock available gratis or at bargain prices. Prudential Insurance Co., which has been financing leveraged buyouts since the early 1960s, calculates that its $2-billion buyout portfolio earns 4% a year more than single-A corporate bonds bought at the same time.

Not a month goes by without another huge buyout making headlines. Last September, Wometco Enterprises Inc., a Miami-based company big in broadcasting and soft drink bottling, announced its sale to KKR for $842 million. The following month KKR agreed to buy Amstar, the sugar processor, for $430 million. In November, Forstmann Little, a rival of KKR, signed to take over Dr Pepper, the soda pop company, for $527 million. Then, in December, the four top officers of Metromedia, the broadcasting chain, announced a proposal to purchase the company for $1.1 billion—the largest sum so far offered in a leveraged buyout.

Intense rivalry often develops for companies on the block. A few weeks after Dr Pepper accepted Forstmann Little's offer, Castle & Cooke, the Hawaiian food company, offered $33 million more. Rebuffed by Dr Pepper's board, Castle & Cooke raised its bid by $21 million, only to get the cold shoulder again. Last summer Norton Simon found itself the unwilling target of competitive bids. David Mahoney, then C.E.O., made the first move when he and a group of partners offered to acquire the company for $725 million in a leveraged buyout. Eight days later KKR topped Mahoney with a bid of $825 million, only to lose out when Esmark Inc., the Chicago-based conglomerate, went to $1 billion and took over the company in a conventional merger that ranked as the 13th-largest deal of the year (see story on page 54).

The auction atmosphere has inevitably sparked concern among lenders and investment bankers that the pricing may be getting extravagant and the leveraging excessive. Nobody cites a specific imminent disaster, but news stories about the latest big deal fan the kind of free-floating anxiety felt when markets get frothy.

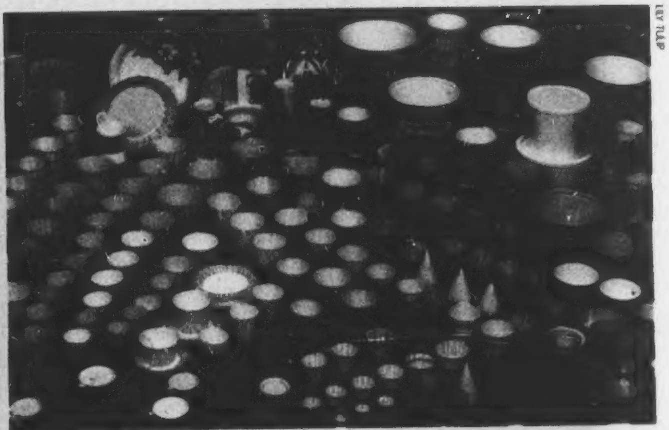
ONE CAUSE of anxiety is the number of new players, many relatively inexperienced, who have plunged into the buyout game. Until 1980 KKR shared the field with a small group of specialized investment banking houses, all of modest size—among them, Forstmann Little, Gibbons Green van Amerongen, Clayton & Dubilier, Carl Marks, and Jordan Co. Today many more leveraged buyout "boutiques" have sprung up around the country. Large investment banking houses have also been attracted to the business. First Boston, Merrill Lynch, and Morgan Stanley have all put together large deals.

But the publicity generated by the rash of recent deals has tended to obscure rather than clarify the true nature of the business. KKR and its competitors are not about to take over the FORTUNE 500. The firms operate in a well-defined segment of investment banking, specializing in seasoned, undervalued companies. At first leveraged buyouts were an essential element in what has been called the deconglomeration of America—a process whereby swollen, unfocused corpo-

RESEARCH ASSOCIATE *Katharena Leanne Zanders*

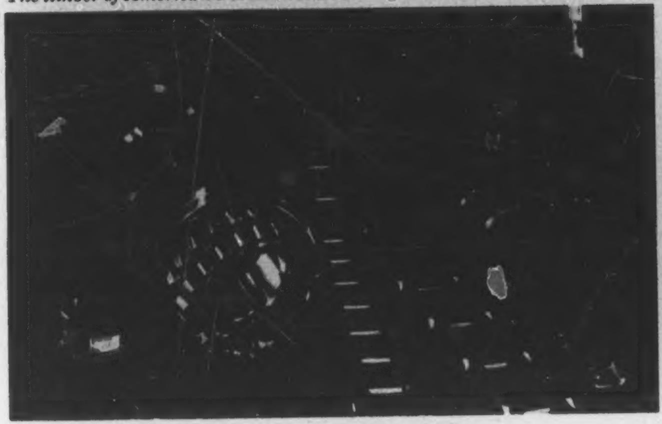
AMERICAN FOREST PRODUCTS

The timber of American Forest Products



LILY TULIP

Dixie cups from Lily Tulip Co.



PTC

Gears, bearings, and chains from PT Components Inc.

DILLINGHAM

The tugboats and barges of Hawaii's Dillingham Corp.

The Mundane Empire of KKR

In KKR's search for leveraged deals, high-flying, high-tech companies are taboo; they're considered too costly and risky. The firm's targets have been mature companies with reasonable growth rates in unexciting products and services, some shown here. The companies need big cash flows to pay off the heavy debt floated when they change hands—the essence of a leveraged buyout.

rations shed divisions they didn't know how to manage (see "How I'm Deconglomerating the Conglomerates," by Royal Little, FORTUNE, July 16, 1979). Since then buyouts have become an anti-merger weapon as well. A company trying to snap up another may face a competitive bid from KKR. What the buyout phenomenon illustrates, above all, is the endlessly ingenious creativity of American capitalism.

KKR is the acknowledged champ at what it does. In the last seven years it has completed 18 buyouts, six of them for over $300 million each, for a total outlay of $3.5 billion. It has been well paid for its efforts. The firm gets the standard investment banking fee of around 1% for putting a deal together; it usually invests that fee in the stock of the acquired company. KKR also receives consultant fees ranging between $150,000 and $300,000 a year from each of the companies in its portfolio, now numbering over a dozen. Two or three partners sit on the boards of KKR's companies and collect directors' fees; they control the boards on behalf of the investors the firm brought into the deal. In addition KKR receives a 1.5% annual fee on the money sitting in its equity pool but not yet invested—$15 million at the outset from the billion-dollar fund.

The greatest wealth creator, though, is KKR's outsize share in potential capital gains. As general partner it is entitled to 20% of any appreciation its equity partners realize. That 20% share is standard in the buyout business, as in venture capital funds.

THE FOUNDING PARTNERS who share this largess—Jerome Kohlberg Jr., 58, Henry Kravis, 40, and George Roberts, 40—are an extraordinarily discreet trio. They pride themselves on their low profile and over the years have generally avoided contact with the press. Though they allowed FORTUNE a lengthy inside view of their operations, they were frequently skittish when questioned closely, particularly about their personal enrichment. "We are very private people," Jerry Kohlberg, the senior partner, kept insisting.

Kohlberg is the most tight-lipped of the three, with a reserve as impenetrable as a two-foot-thick vault door. There is also something rather prim and constricted about his appearance—largely a matter of his rimless eyeglasses and the tiny knot, almost disappearing under his collar, in his unfashionably thin tie. His caution is legendary. On one rainy morning in Washington, a colleague recalls, Kohlberg ventured forth encased in galoshes, a trench coat, a scarf, and a floppy hat, with an umbrella in hand. "I thought I'd be prepared," he explained. With an interviewer his caution is so extreme that he sometimes pauses 30 seconds before responding to a question. And he never received this writer without being chaperoned by his outside P.R. counsel.

The younger partners, Kravis and Roberts, are a bit more daring in their haberdashery—favoring white collars and white French cuffs on dark shirtings—and more forthcoming in their manner. They are the activists in the firm, searching out the target companies, stitching together most of the deals, and signing up participants in the equity pools. They are first cousins and are both short, dark, and wiry. Kravis is the more volatile of the two and occasionally can be abrasive. A longtime employee of the firm, Robert MacDonnell, 46, became the fourth partner early in 1982. Like his colleagues, he's devoted to tennis, the ruling avocational passion in the firm.

When Kohlberg Kravis Roberts & Co. began business in May 1976, its founding partners had already been doing leveraged buyouts for several years. Kohlberg, a native New Yorker who has both a law degree and an MBA, had worked at Bear Stearns since 1955 and eventually became head of its investment banking department. In 1965 he undertook his first leveraged buyout, largely by chance. The term was hardly ever used at the time.

H. James Stern, then 72 and the head of a suburban New York company called I. Stern, which produced precious metal alloys, had come to see Kohlberg with a problem. Stern wanted to put his estate in order and was thinking either of selling his business or going public. "I suggested that he could have his cake and eat it too," says Kohlberg, who put together a deal and bought the company for $13.8 million. The new owners of the company, renamed Stern Metals, were Bear Stearns, the Paul Revere Insurance Co., and the old management. The company did well and went public with stock offerings in 1966 and 1967. Bear Stearns ultimately distributed its 40% of the shares to its partners, who sold out at $20 a share—a gain of $17.50. Kohlberg, who had been allocated 10,000 shares, made a profit of $175,000.

LEVERAGED BUYOUTS, he realized, were clearly a good thing. He did three more in 1966 and another in 1969 when he was assisted by Kravis and Roberts, who had just joined the firm. Their first flop came in 1971, when they bought out Cobblers Inc., a shoe company headquartered in Los Angeles, for about $20 million. The former chief executive stayed on, considerably enriched by the deal, but six months later he committed suicide. Kohlberg tried two other C.E.O.s in quick order, but found no one capable of running the company. He ultimately sold it off in pieces, losing $400,000 for the equity investors. The lenders recovered their money.

In 1972, however, came a big winner in Vapor Corp., a manufacturer of valves and pumps, which the partners bought for $36.5 million from the financially troubled Singer Co. The Vapor deal was highly leveraged, with 88% long-term debt to 12% equity. The interest rates on the various classes of debt were high for that era—as much as 9.5%. But the company's cash flow was good and earnings increased rapidly, which made it possible to repay much of the debt in the first few years. The common stockholders paid $2.80 a share and got $33 a share when the company was sold to a subsidiary of the Brunswick Corp. in 1978. In 1975 the partners brought off an even bigger coup, paying $1 a share for Incom, a manufacturer of industrial components being shed by Rockwell International. They got $22 a share when they sold Incom in 1981.

> The biggest joy of the leveraged buyout is one familiar to a homeowner charging off large mortgage payments on his 1040. Operating profits not covered by depreciation allowances are largely offset by interest payments. Uncle Sam is a silent partner in the deal.

Shortly after they purchased Incom, the partners went into business for themselves. Then as now, they were looking for mature companies with predictable cash flows, decent growth prospects, little long-term debt, and modest future capital requirements—companies that could be leveraged to the hilt. They wanted well-run companies, whose management hankered for a share of the equity. They wanted companies with "market niches," to use a well-worn phrase in the buyout business, that protected them from severe competitive pressures.

Once KKR leverages a company with a lot of debt, its technique is to speed up cash flow to retire loans as quickly as possible. Whenever possible, the firm writes up the company's assets to the present cost level for tax purposes rather than carry them at historical cost; this makes it possible to charge more depreciation. The gambit is avoided, however, if the company previously took a lot of depreciation or used substantial investment tax credits. Under the tax laws the company can be hit with a "tax recapture" that would outweigh the benefits it might get by boosting depreciation. Other ways of generating more cash include paring inventories, accelerating the collection of receivables, and delaying bill payments to the maximum.

But the biggest joy of the leveraged buyout is one familiar to any homeowner charging off large mortgage payments on his 1040. Operating profits not covered by depreciation allowances will be largely offset by those huge interest payments. In the early years after a buyout, many companies pay little or no corporate tax. Uncle Sam is a silent partner in the deal.

PRECISELY BECAUSE equity is such a small part of a bought-out company's total capitalization, a leveraged deal can become immensely profitable. As the debt is paid down, the equity portion grows rapidly, as does the book value per share. Vapor's debt-equity ratio, nearly 5 to 1 in 1973, was swiftly reduced to 1 to 2 by 1976. Per-share book value soared from $3.45 to $10.42. Such are the blessings of high leverage.

KKR made its reputation not only because its deals worked out, but because it demonstrated that very large transactions were feasible. Prior to 1979 no one did a leveraged buyout for much over $100 million. Then, in the spring of 1979, KKR brought off the $355-million purchase of Houdaille Industries of Fort Lauderdale, Florida, a manufacturer of pumps, machine tools, and automotive products. It was a most elaborate financial design—highly "creative," as they say in the trade. Continental Illinois, Bankers Trust, and Manufacturers Hanover put up $60 million in revolving credit. Then came $140 million in senior notes and $75 million in senior subordinated notes, followed by $31.5 million in junior subordinated notes; the lenders were 23 institutions, mostly insurance companies. The lenders got a big "equity kicker"—over half of the voting common stock—while KKR and its venture partners picked up the rest of the $48.4 million equity. All the equity money is still at risk, but KKR reports that Houdaille is showing respectable earnings and has repaid a substantial portion of its debt.

More large deals followed. In 1981, KKR and its partners bought seven companies, one for $381 million and three for over $400 million each. Norris Industries of Long Beach, California, traveled full circle from public to private to public company in a mere 22 months. In December 1981 KKR paid $420 million for this manufacturer of automobile, household, and defense products (projectiles, cartridge cases). Renamed NI Industries, the company went public again last October, in the process enriching everybody involved with the deal.

When taken private, NI Industries was highly leveraged, with a debt-to-equity ratio of nearly 9 to 1. Initially it suffered from the steep decline in the auto and housing indus-

THE TEN BIGGEST LEVERAGED BUYOUTS

COMPANY	DATE	INVESTMENT BANKER	AMOUNT
Wometco	Pending	Kohlberg Kravis Roberts	$842 million
Conoco Chemicals	Pending	E.F. Hutton Group	$600 million
Dr Pepper	Pending	Forstmann Little	$527 million
Congoleum	1980	First Boston	$448 million
Signode	1982	Merrill Lynch	$430 million
Amstar	Pending	Kohlberg Kravis Roberts	$430 million
Bendix Forest Products	1981	Kohlberg Kravis Roberts	$425 million
Norris Industries	1981	Kohlberg Kravis Roberts	$420 million
Fred Meyer	1981	Kohlberg Kravis Roberts	$420 million
Purex Industries	1982	Gibbons Green van Amerongen	$390 million

Leveraged buyouts have been getting bigger. The three biggest on this list, which includes those agreed upon as well as those consummated, are still pending. Not included is a recent offer by Metromedia's top officers to buy the company for $1.1 billion, since no deal has been struck. In the case of Conoco Chemicals, Du Pont is selling off only part of a business it acquired in 1981.

tries. Nonetheless it was able to reduce its long-term debt substantially, slicing off $30 million in 1982 and $87 million in the first nine months of 1983. Some of the proceeds from a public stock issue last fall knocked off another $67 million. Earnings also improved substantially as the auto and housing industries revived. NI stock, brought out at $20 a share—a sevenfold increase from the $2.75 that the stockholders paid when the company went private—has recently traded as high as $23 a share.

The steep run-up could greatly enrich KKR. It will not say how much NI stock the four partners own, though it is small in comparison to their limited partners' stake. But the big windfall for KKR could come from its 20% interest in any capital gains on the 7.4 million shares owned by its limited partners. KKR collects only when the capital gains are realized, so for the present it has a paper profit. But at the recent market price that 20% share translated into a $28-million gain.

Disarmingly, the partners do not plead that high risk justifies the high rewards in their business; they insist that the deals themselves are not risky. They could hardly argue otherwise, of course, and maintain their posture of prudent investment bankers. The risks they concede are of deals that fall through, which can involve expenses as high as $500,000. Three times last year KKR mounted serious offers for companies—including Norton Simon—only to lose out to higher bidders.

THE RISKS, in fact, are bigger than KKR acknowledges. By far the major financing tools these days in large buyouts are revolving credit bank loans at two or three points above prime. If interest rates shoot up again, there could be serious pressure on many of the newly private companies. A cyclical downturn in the economy could also hurt badly, as it has in the past. Back in 1981, KKR paid $425 million for Bendix Forest Products, soon renamed American Forest Products. It got the trees at a high point in the market, after which the forest products business plummeted along with housing construction. KKR had to return part of the land to Bendix, in exchange for canceling a $65-million debt. In the process KKR and its partners lost $5 million of their $95 million in equity.

The great fear among lenders is that the intense competition for properties is driving up prices to unrealistic levels. "Too much money chasing too few deals" is the standard diagnosis. The banks and insurance companies talk of the dubious deals they have turned away, but generally will not specify which ones. Not only is bidding intense, but valuations have gone up enormously since the bull market in stocks began in August 1982. The price of private companies too has been affected by the market surge.

On the other hand, no company involved in a big buyout deal has yet gone belly-up. The few bankruptcies resulting from deals in recent years, such as Brentano's and Havatampa, all involved relatively modest transactions. Prudential reports that while 5% to 15% of its $2-billion buyout portfolio is in trouble at any one time, the profitability of the portfolio as a whole remains robust. The price the insurance company exacts for its loans allows a margin of error.

Eyebrows rose when KKR disclosed its plan to pay $842 million for Wometco. The company is in several businesses—cable TV, movie theaters, and vending machines, as well as broadcasting and soft drinks. KKR will be paying seven or eight times pretax cash flow—high in the view of some. Kravis, understandably, argues that the price is not too high. He points out that the multiples for each of the businesses, taken separately, would be in line with what the market has recently paid for similar operations. Moreover, Kravis reports that he has had no trouble arranging financing. But banks have been wrong before.

KKR's own portfolio of companies is sufficiently diversified so that it faces no great risk to its net worth if a big deal should go sour—nor do its limited partners. The real risk would be to KKR's credibility. If one of its large companies failed and the lenders were seriously nicked, KKR would lose a lot of momentum.

On the whole, however, KKR is regarded as a prudent promoter. Even its competitors are eager to praise it, for its success helped enlarge the buyout game for everybody. Investors can be extravagant in their compliments. "You are present at the creation of another great American fortune," says Timothy Hay, president of Security Pacific Capital Corp., the venture capital arm of the big Los Angeles bank. "A reasonable minimum return on that billion-dollar pool would be about 20% a year. When that billion doubles, KKR will make $200 million." At a 20% compound growth rate, it would take less than four years.

■ Recently Jerry Kohlberg was a little startled when asked what economic or social benefit KKR delivered to justify such enormous rewards. But he recovered quickly and produced an answer: KKR promotes economic efficiency by giving managers a stake in their businesses and thus an incentive for better performance. And all these buyouts help to redeploy capital, making it available for other users. ■

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HOW HIGH THE BULL?

WHAT WOULD SEND THE DOW TO 2000

DAVID STOCKMAN: NO MORE BIG BUDGET CUTS

HOW TO COMPETE WITH IBM

THE RECOVERY SKIPS MIDDLE MANAGERS

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MANAGEMENT/JEREMY MAIN

THE RECOVERY SKIPS MIDDLE MANAGERS

Out-of-work executives *meet at the Forty Plus Club in Chicago to swap information and get advice and tips on job hunting. Club members must be unemployed, over 40, and have earned at least $25,000 a year.*

■ Those workhorses of American business, middle managers, once seemed almost immune to economic downturns. No longer. The recession hit them hard, and the recovery hasn't helped much. Mid-managers who still have jobs can expect fewer promotions than in the past, smaller and less frequent raises, harder work, and stiffer demands for good performance. Those who were fired or pushed into early retirement find themselves seeking work in a résumé-flooded job market. "I never thought I'd be unemployed, I never thought I'd be unemployed this long, and I

PHOTOGRAPHS BY MICHAEL ABRAMSON, CHICAGO never thought I could survive this long," says Harold N. Bowen Jr., 53, who in 1982 lost his $34,000-a-year job as a sales manager at Dukane Corp., a Chicago maker of communications systems. Bowen, who worked for just two companies in 25 years, is still job hunting.

In their search for greater productivity and lower breakeven points, many large corporations sliced into managerial bureaucracy during the 1981-82 recession. On top of that, an outbreak of mergers, takeovers, and leveraged buyouts again and again left one job where two existed before.

WHY AFTER four successive quarters of economic recovery hasn't the market for middle managers revived? Deregulation and foreign competition force companies to keep cutting costs. Computerized systems lessen the need for information gathering, a principal task of corporate bureaucrats. Perhaps most important, the new corporate fashion calls for fewer levels of authority, with each manager controlling more people, and for participative management, with decisions pushed to lower levels of the company and out into the field.

The cliché of the moment is lean and mean. "I don't think any corporation is going to have a big corporate staff anymore," says William S. Woodside, chairman of American Can. His company sold its Dixie-Marathon division, lopping 800 people off the headquarters payroll in 1983, and trimmed other corporate staffs. Now American Can wants to sell its lavish headquarters in the estate country of Greenwich, Connecticut, and slip into something more modest. The parking lot that used to have no space for latecomers now offers choice spots at all times. "Instead of dealing with a large, ill-defined corporate staff," says Woodside, "the people in the field have to deal with just one of three officers, and they get fast reactions."

Middle managers can be defined roughly as salaried employees above the first two levels of supervisors and below the policymaking level. They make as much as $100,000 a year. The clearest evidence of their plight comes from executive search firms. After surveying 45 of its members in December, the Association of Executive Search Consultants reported that in 1983 requests to find managers for jobs paying less than $60,000 a year dropped 21% from 1982, a bad year. Openings for jobs paying $60,000 to $99,000 a year lagged behind 1982 during most of 1983, but turned up in the final quarter, for a net gain of 13%. By contrast the demand for jobs paying over $200,000, though only a tiny portion of the managerial universe, increased 86%.

RESEARCH ASSOCIATE *John Paul Newport Jr.*

No one has really good statistics about middle managers, but the Bureau of Labor Statistics reports that unemployment in the category of "managers and administrators" reached a peak of 4% in December 1982, the highest since the BLS started tracking the group in 1958. That, as usual, was lower than the unemployment rate of most other BLS categories, but a shock for managers accustomed to security. The rate has since dropped a bit but is still well above normal.

A survey of large U.S. corporations conducted in August for the Harvard Business School by LdG Associates, a Gardner, Massachusetts, business-research firm, found that 56% of the companies had cut middle management in the previous year (see chart on page 118). Even highly profitable and fast-growing companies did some trimming. Harvard Professor D. Quinn Mills, who analyzed the survey, says, "Something is really going on here."

To find out more about what that might be, D. Ronald Daniel, managing director of McKinsey & Co., a consulting firm, has proposed that Harvard undertake a long-term study. He conjectures that attitudes have changed for good—top managers have begun to value middle management less. McKinsey developed a method of evaluating management functions so a company can systematically spot and eliminate those functions that are least useful. With the functions gone, the people who perform them can be eliminated too. In a widely cited application of what's known as overhead value analysis, McKinsey helped Alcoa identify 20% of the corporate staff's functions as marginal, resulting in the elimination of 1,300 of 12,000 salaried jobs in 1982 and 1983.

Another method of cutting overhead is to increase the number of people each manager supervises—the so-called span of control. Xerox, faced with competition from Japanese copiers, has reduced total employment worldwide from 124,000 to 107,000 since 1981 and is still snipping away. The company puts special emphasis on trimming middle management to make executives more productive and has struck 100 of 365 managers from the headquarters roster in Stamford, Connecticut. Douglas M. Reid, Xerox vice president for personnel, says that any span of control that gives a manager fewer than six or seven people to supervise is suspect. In some cases, Reid says, Xerox has raised the span to 15, and many managers are "working leaders" who have assignments in addition to bossing others.

Geography and specialty make a lot of difference in the outlook for middle managers. The job market in Boston remains firm, but in the Midwest it's weak. Data processing offers plenty of jobs. Financial and health services are promising too. But corporate staff jobs are scarce in finance, planning, law, personnel, and public relations. Generally, people whose specialties involve making or selling things find work more readily than staff people.

Some specialists in the managerial marketplace insist that no real problem exists. One such is James E. Challenger, who heads a Chicago firm bearing his name that specializes in "outplacement"—helping dismissed executives find jobs. Challenger claims his clients are getting work in an average of 3.3 months each, about the same as in the past. In 1984, Challenger predicts, managers who job-hunt aggressively will readily find work. Other experts, among them Alan R. Schonberg, president of Management Recruiters International Inc., a Cleveland headhunting firm, are optimistic because they don't believe that corporate promises to stay lean can withstand the recovery much longer. "Fat creeps in," Schonberg says. "It's part of human nature in business."

"I don't think any corporation is going to have a big corporate staff anymore," says William S. Woodside, chairman of American Can.

THE MORE PREVALENT view holds that a fundamental change is under way. Eugene E. Jennings, professor of business administration at Michigan State University, describes a long-term trend that started in the early 1970s. The organizational structures of many companies resembled light bulbs rather than pyramids, with a lot of bloat at the top. IBM and a few other big compa-

Job Hunt in the Snow

Braving the Chicago weather, Harold N. Bowen Jr., 53, a jobless sales manager, sets off doggedly for another job interview. A member of the Forty Plus Club, Bowen has applied to 435 companies since he was laid off more than a year ago.

nies began to trim bureaucracies, and lean and mean caught on.

In most industries the No. 1 and No. 2 companies are reducing management slots, says Jennings, "but many others still haven't come to grips with the problem that management is just too expensive. We still have a lot of managers who can't solve a problem without throwing money and people at it. Some big companies still have 11 layers of management. My God, the Catholic Church only has four." (He refers to the Pope, archbishops [who are sometimes cardinals], bishops, and priests, but apparently doesn't take into account the notorious bureaucratic intricacies of the Vatican.)

General Electric is a many-layered company, but for a manager GE isn't the place it was. For example, the corporate planning staff, which grew to 70 people during the 1970s, has shrunk to 20. The planning staffs in each of the product sectors at GE—staffs that were expanded to cope with second-guessing at headquarters and demands for more information and analysis—are down from six or seven to one or two people each.

Rather than flatten the executive pyramid by taking out layers of command, says Donald E. Kane, GE's manager for corporate organization planning, GE took slices off the sides of the pyramid, cutting staff jobs in particular, so that there are fewer managers at each level. The average GE manager today faces a future that promises fewer opportunities and less security than his predecessor of a decade ago looked forward to. "The young executive then could expect a couple of promotions in his first ten years at GE," says Kane. "We can't promote him now as readily, and we can't leave him in one place all that time, so he will probably have a couple of lateral moves instead of promotions. That limits salary increases." Kane adds that the most promising people hired from top business schools will still be able to move up fast.

FOR THE VERY BEST middle managers—ones who are well trained, flexible, extra hard-working, and likely as not younger than average—shrinking management creates opportunity. In a lean organization, good managers will be more visible and have more access to the top and more freedom to make decisions. When a Bank of America officer heard in December that the bank planned to streamline, shutting down 120 branches and eliminating 10% of the bank's jobs, he said, "My gosh, it seems like I'll get the license to actually manage. That's wonderful." Wonderful, if he isn't one of those culled.

Gradall Co. in New Philadelphia, Ohio, a maker of excavators and loaders with telescopic arms for the construction industry, slashed the total work force from 557 to 288 in 1982. At the same time, however, the company offered exceptional opportunities to a few promising executives. James C. Cahill, 31, left LTV to report for work in September 1982, three days after Gradall had laid off 100 people, including nearly half the quality assurance staff he was supposed to manage.

He met little resentment because Gradall President C. William Gray had spread the word that in the midst of what he calls a depression he would be hiring a few people with special qualifications vital to the survival of the company. Cahill had a skill Gray needed—he had supervised advanced engineering systems such as CAD/CAM at Fiat-allis, a joint venture of Fiat and Allis-Chalmers making heavy construction machinery in Springfield, Illinois. Gray assigned him to introduce CAD/CAM systems for Gradall engineers to use. Gray says he tells his managers to be "cross-functional" and to "think outside the box" of their own specialty.

In addition to managing quality assurance and CAD/CAM, Cahill supervised the integration into the Gradall business of a line of forklifts purchased from another manufacturer. In the company's plump days at least two managers would have handled these jobs. Cahill works hard, from 6 A.M. to 6 P.M. most days. "There's pressure to learn and to learn very quickly," he says. He adds: "This was most beneficial. It showed me how businesses are run from top to bottom."

Gray cut his management staff from 38 to 22. "There are flexible people and there are rigid people," he says, "and we used the depression to increase the number of flexible people. Unfortunately, that had a bad effect on some of the rigid people." Rigid people tend to be older. About 17 salaried employees at Gradall took early retirement, 52 others got laid off. Those who stayed get more varied assignments—and work harder.

Since many corporations are shrinking, more managers are hunting for than finding new jobs. "There are a lot of good people out on the street through no fault of their own," says James C. Cabrera, president of Drake Beam Morin Inc., a New York outplacement firm. Most of those under 55 will end up with good jobs, he predicts, maybe better jobs than the ones they lost, but the search is likely to be longer and harder than they expected.

Consider Bruce V. Keller, 46, of Princeton, New Jersey. He made $65,000 a year as director of operations at Johnson & Johnson's J&J Products' adhesive bandage plant in Chicago. But he has been on the job market now for two years.

THE FIRST YEAR'S effort netted four job possibilities, all of which died. When he answered Knoll International's ad for a vice president, he found himself one of 750 applicants. He was among 30 finalists, but Knoll decided to appoint an insider to the job.

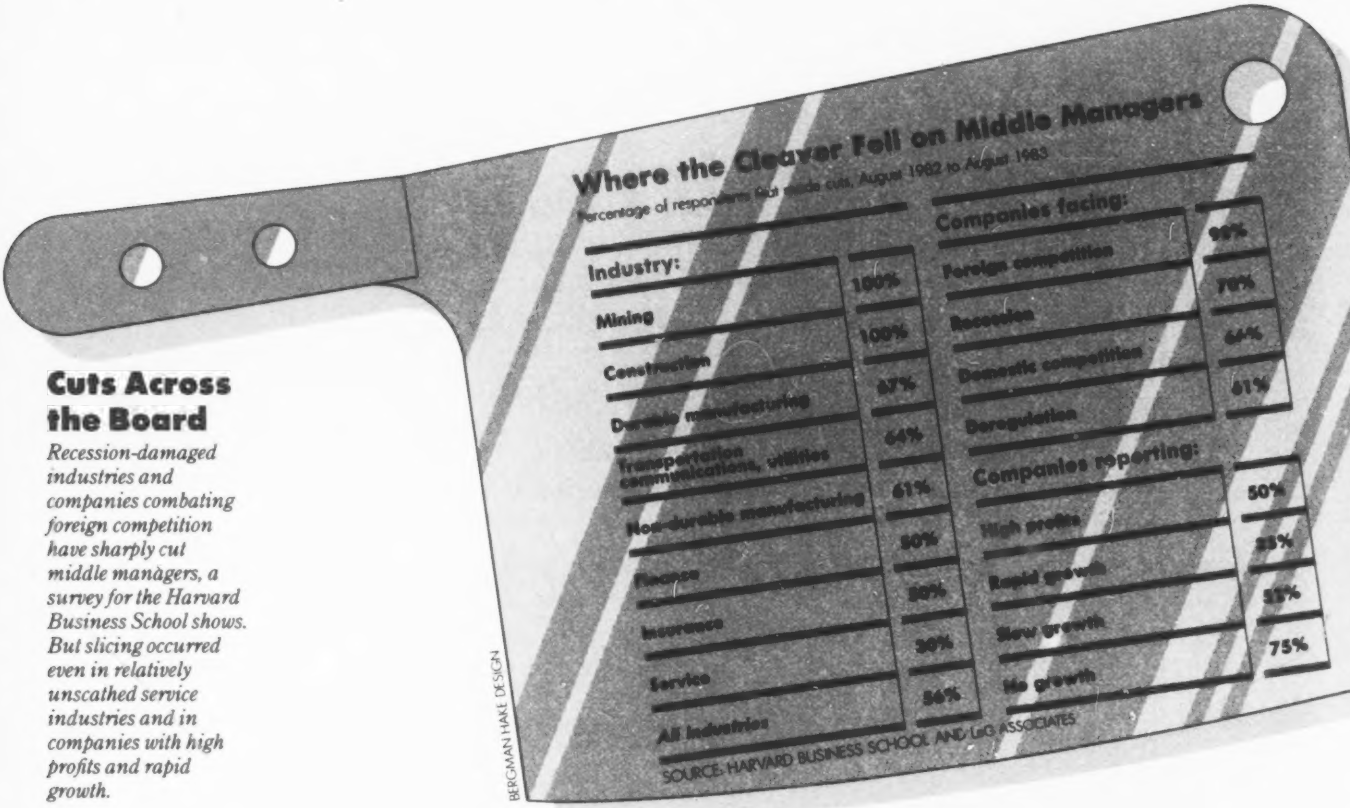
Many unemployed managers have little reason to be confident about the future. After 31 years with the Kemper insurance group, John Hayes, 54, was making $28,000 a year as an administrator in a section that analyzed high-risk insurance policies. He expected to go on doing that until he retired. "I had the feeling Kemper was the best place to work for the rest of my life," he says. But underwriting losses hit insurance companies, and 9% of Kemper's home office employees in Long Grove, Illinois, lost their jobs in January 1983. Hayes was one.

For the last year he has been active in Chicago's Forty Plus Club, made up of out-of-work executives who try to help each other find work. Hayes has discovered that all the big insurance companies around Chicago are in the same pickle as Kemper. They are not hiring. At a recent meeting of the Forty Plus Club, an outplacement specialist told Hayes that he would fit the corporate mold better if he got rid of his beard, but he won't do that.

Now he plans to seek full- or part-time work as an office manager at small insurance agencies near his home in Libertyville, 40 miles northwest of Chicago. "I'd be happy to find a job like that at $15,000 a year," says

Keeping in Touch

Out of work for a year, John Hayes (left) lunches regularly with former Kemper insurance colleagues near Kemper's Long Grove, Illinois, headquarters. His ex-boss, Clyde L. Eriksen, 58 (seated beside Hayes), has just been induced by Kemper to take early retirement—and already has another job. Hayes, 54, is still looking.



Where the Cleaver Fell on Middle Managers

Percentage of respondents that made cuts, August 1982 to August 1983

Industry:	
Mining	100%
Construction	100%
Durable manufacturing	67%
Transportation communications, utilities	64%
Non-durable manufacturing	61%
Finance	50%
Insurance	50%
Service	30%
All industries	56%

Companies facing:	
Foreign competition	98%
Recession	70%
Domestic competition	64%
Deregulation	61%

Companies reporting:	
High profits	50%
Rapid growth	55%
Slow growth	55%
No growth	75%

SOURCE: HARVARD BUSINESS SCHOOL AND L&G ASSOCIATES

BERGMAN HAKE DESIGN

Cuts Across the Board

Recession-damaged industries and companies combating foreign competition have sharply cut middle managers, a survey for the Harvard Business School shows. But slicing occurred even in relatively unscathed service industries and in companies with high profits and rapid growth.

Hayes, who is not too worried about security. He has an income from savings and the proceeds of his Kemper profit-sharing fund. His children are grown and his wife works, so it won't take much income to maintain their standard of living.

Another member of the Chicago Forty Plus Club, Tom Lucas lost his $32,000-a-year job in the advertising division of the U.S. League of Savings Institutions four years ago. He had been with the organization 31 years and five months. He was 58, but he thought the four months' pay the League gave him would last until he got another job. "I had a sense of anger and shock," he remembers, "but I didn't have a sense of panic. I was okay because I was going to get a job."

All he has picked up is consulting work. "The job hunt has been extremely difficult," he says. Now he is waiting to hear from an ad agency. "But I learned on my great-uncle's farm that just because a hen's on the nest doesn't mean there's an egg there. You get careful about getting your hopes too high because it's a long fall." Married, with one child in college and another still in high school, he adds quietly, "The money is coming to an end."

Hayes and Lucas are handicapped by age, by having specialties that are not much in demand, and by geography. They haven't looked much beyond Chicago, one of the hardest-hit cities in the U.S. A further handicap faced by many displaced managers is that they are not very good at job hunting. They haven't done it for years, or even decades. As likely as not, each manager thrust into the job market will send out hundreds of letters and résumés in broadcast style to join tens of thousands already lying forgotten in the files of headhunters and recruiters. Then the manager waits for something to happen.

EACH WEEK, according to Richard D. Sbarbaro, president of Lauer Sbarbaro Associates Inc., a Chicago search firm, his company gets 400 to 500 unsolicited résumés. Lauer Sbarbaro fills 100 jobs a year, but finds only two or three successful candidates a year in that flood of unsolicited inquiries.

Middle managers can't look for better days very soon—and maybe not ever. Many large companies in steel, autos, and other industries will continue streamlining. General Motors, which whacked white-collar employment from 151,500 in 1978 to 128,000 today, will cut deeper—it hopes by attrition—as the reorganization announced in January takes effect (see page 7). Ford intends to keep trimming white-collar staff through 1985; more than 21,000 salaried workers in Ford's auto-related businesses in the U.S. have been dropped since 1979. Chrysler is reopening plants and adding shifts to meet growing sales, rehiring production workers and people to manage them. But the company sees no need to hire staff managers, no matter how sales go up. Chrysler says it will hold salaried staff to 22,000, compared with 40,000 in the late 1970s.

In other industries, too, companies that have been slimming for years intend to stay on anti-fat regimens. Weyerhaeuser, for example, has slashed salaried payroll from 13,000 to 10,000 and plans to pare for another two or three years. Should an unexpected boom in lumber come along, Weyerhaeuser says it will hire temporary consultants rather than permanent managers.

Some industries, including insurance and banking, still have a lot of slimming to do. Insurance companies are closing regional offices and, with

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FORTUNE

ROBERT HOWER

Some Get a Break

A few lucky managers with the right qualifications benefit from corporate culling. In the midst of drastic layoffs, Gradall Co. in New Philadelphia, Ohio, hired James Cahill, 31, because he has the high-tech engineering experience the company needs to survive.

the help of automation, shrinking back-office staffs. As America's 14,000 commercial banks merge and streamline in the more competitive years ahead, many more managers will be looking for jobs.

THE NEWLY COMPETITIVE telephone industry is coming down hard on management puffiness. As Ameritech, the Midwestern child of divestiture, prepared to leave the Bell System, it cut middle management by 26.5% through attrition and early retirement offers for employees 55 and older. Illinois Bell, one of Ameritech's operating companies, has reduced the number of middle managers in the $45,000- to $100,000-a-year range from 3,000 to 1,900 and dropped six of 15 company officers.

Philosophers of business are already beginning to speculate about the deeper implications of the dark outlook for middle managers. "The life contract implied in employment with a paternalistic oligopoly no longer exists," says Larry Hirschhorn, a senior researcher at the Wharton School's management and behavioral science center in Philadelphia. "The glue between manager and employer is loosening." Hirschhorn thinks middle management is being transformed by lasting—not cyclical—changes. Middle managers may never again feel as secure as they felt in the past.

■ Whether companies that trim their staffs will be able to stay thin in prosperous years depends very much on how they go about losing weight. Companies that arbitrarily slash, say, 10% of their force without reducing functions and increasing spans of control may have to start hiring again as sales increase and the work load goes right back up. But companies that began slimming by eliminating the tasks that seemed nonessential and then cut the people who performed those tasks will be able to stay thin. The tasks eliminated don't come back to life when prosperity returns, so staffs don't have to be fattened up again. ■

FEBRUARY 20, 1984
$3.00

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WHAT'S LEFT OF REAGANOMICS?

APPLE
BITES BACK

RUPERT
MURDOCH'S
MOTLEY
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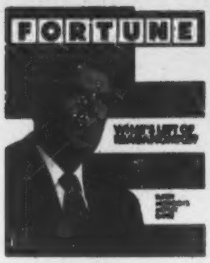

If only the dollars-and-cents promise of Reaganomics had been as enduring as the Stars and Stripes. The cover painting is by Eraldo Carugati. For an account of how Reagan missed his original economic goals, and what he might do if reelected, see page 42.

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COMMUNICATIONS/ANDREW C. BROWN

EUROPE BRACES FOR FREE-MARKET TV

■ Alasdair Milne, director-general of the British Broadcasting Corp., harrumphs about the "worthless, debilitating, and mindless rubbish" on U.S. television. Other proprietors of government-backed European TV darkly warn of "wall-to-wall *Dallas*" in Europe. But viewers seem ready, even eager, to take the risk. Pulled by consumer demand and pushed by technology, European TV is rapidly becoming, well, more American.

The pace and degree of change will vary with each country's idiosyncrasies and political leanings, but the current impresarios of European TV, the government broadcasting authorities, eventually will lose their monopoly. Consumers want more televised entertainment than they're getting now, and their desires are creating potentially huge opportunities for the creators and marketers of programming. As advertising restrictions lessen, millions of dollars will pour into television. Marketers will see whether Europe can finally develop into a single mass market for packaged goods and other kinds of consumer items.

The premise of governments that television is a scarce national resource to be doled out through a handful of broadcast channels won't stand up to new technology. Satellites can beam additional TV signals to cable systems for distribution to homes. Direct broadcasting, a fast-evolving technology just getting under way commercially in the U.S., uses satellites to send signals to small, inexpensive dish antennas on consumers' rooftops. Satellite distribution to cable systems is only beginning in Europe, and direct broadcasting is somewhere in the future. But already the message is clear. Says Régis de Kalbermatten, secretary-general of the European Broadcasting Union, an organization representing public broadcasters in 31 countries: "With cable and satellites, there's no reason anymore to have a broadcasting monopoly."

European governments have tried to stay in the game by controlling the technology. At first several, including France, West Germany, and Britain, made plans to launch expensive, high-powered direct-broadcast satellites, each with up to five TV channels, by the late 1980s. Though the plans still exist, governments now are pushing sophisticated cable systems. In both cases governments are hardly out to give viewers more choice: the primary motivation is industrial policy.

MOST SATELLITE PROJECTS seem intended to give national aerospace contractors a leg up in the satellite business, where Europe lags behind the U.S. Cabling the countryside is supposed to boost telecommunications, an industry that nearly every European government has targeted as a hoped-for source of future jobs and economic growth. In many European countries the government's PTTs (post, telephone, and telegraph authorities) are responsible for cable systems; once in place, high-capacity cable can upgrade national phone networks to better handle such things as two-way data communications as well as TV channels.

***Dallas* star Larry Hagman** *is a dreaded symbol of*

What kind of TV programming the satellites and cables are supposed to carry is sort of an afterthought, and a subject of perpetual debate. American cable systems generally offer customers a package of basic services—available channels of conventional TV broadcasts along with satellite-transmitted news, sports, pop music, and general entertainment channels supported by advertising—and one or more extra-cost "pay TV" channels consisting largely of recent feature films. As they move into cable, European officials clearly hope to retain control. But most realize that to offer enough of the kind

RESEARCH ASSOCIATE *H. John Steinbreder*

BLINTE

what European highbrows fear from an expansion of commercial TV. As his wife, Maj, watches, Hagman finger-wrestles a fan in a Munich beer hall.

of entertainment that will sell cable, they will have to rely on imported programming, mostly from the U.S.

The best evidence that Europeans want more entertainment is the phenomenal number of videocassette recorders (VCRs) they've been buying. The Economist Intelligence Unit, a London-based research organization, estimates that the number of VCRs in use in Europe grew from fewer than half a million in 1978 to nearly 14 million last year (vs. 8.4 million in the U.S.). The retail value of VCR sales reached an estimated $3.9 billion in 1982, and consumers shelled out an additional $1.2 billion for software—blank tapes and prerecorded cassettes. The Economist Intelligence Unit forecasts that by 1985 the hardware market will be worth $6 billion and the software market will hit $3.5 billion. In prerecorded cassettes, most of which are rented, the big draw is Hollywood feature films, followed by pornography. An obvious message from the hot new medium of video is that consumers have an appetite—and perhaps a lust—for a lot more than they can get by simply watching what's on broadcast TV.

Another demand not currently satisfied by television comes from advertisers. Government broadcasts in Belgium, Denmark, Norway, and Sweden carry no TV advertising. Italy, by contrast, has become one of the world's most commercial and competitive television markets; a 1976 court ruling there lifted the state monopoly's control over local broadcasting. Between those extremes, demand for ad time often exceeds supply, and the conditions under which ads are sold can be maddeningly restrictive. West Germany, for example, permits 20 minutes a day on two of its three channels—but ads can't appear after 8 P.M. Advertisers there, and in

France and the Netherlands, submit requests each fall for time the following year. Prices are fixed and advertisers have little say over where in the schedule their ads appear. "You wouldn't believe the complexities of some of the allocation systems," says Peter Curtis, research director at Michael Jarvis & Partners, a London media-buying agency. "They're heavily weighted to avoid letting the Unilevers and Procter & Gambles monopolize the time that's available. It's schizophrenic. The broadcasters protect the consumers from advertising, but they also protect advertisers from competing with each other for airtime."

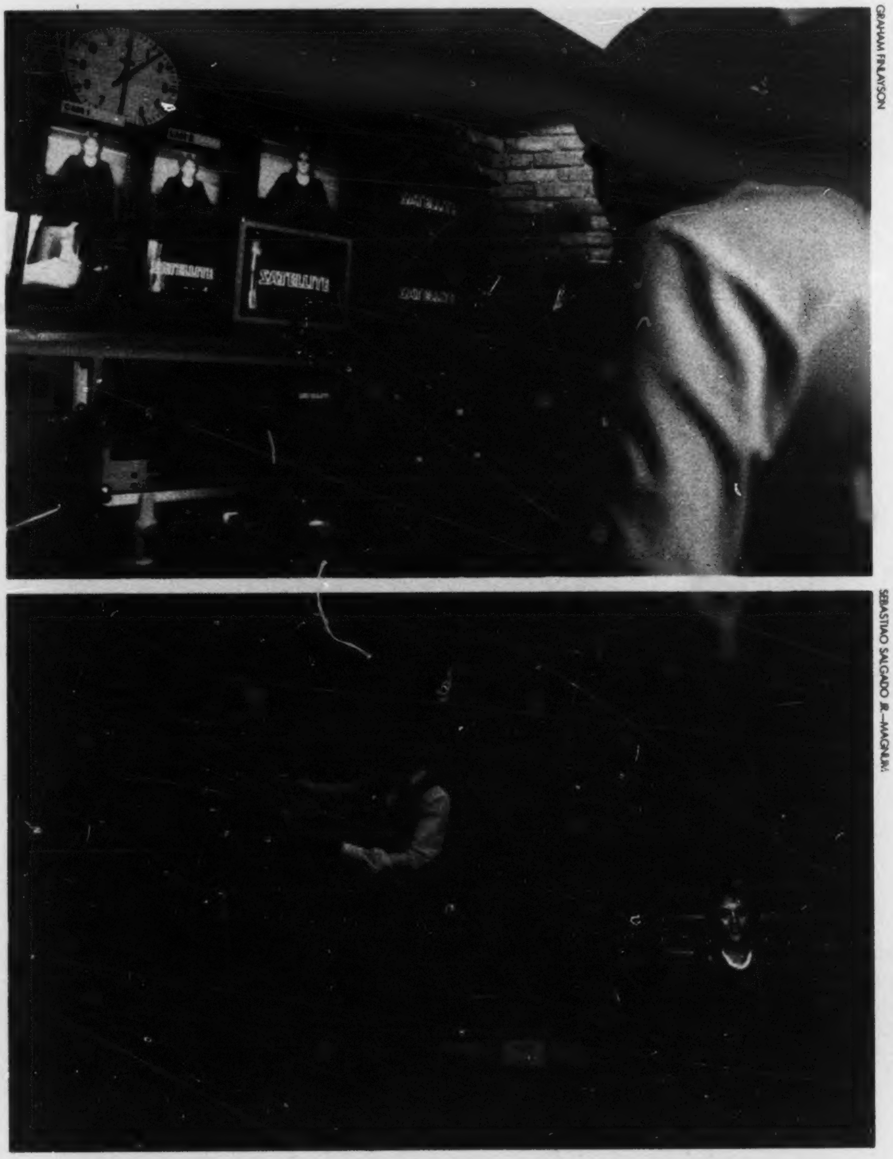
In such restricted markets, a lot of money that wants to flow into TV advertising gets turned away, or doesn't bother to show up. The amount of such frustrated spending is unknowable. But it's worth noting that in the relatively free British market, TV expenditures amount to roughly 0.3% of GDP, compared with nearly 0.5% in the U.S. Ad agency executives contend that if the rest of Europe were as liberal as the U.K., and TV ad spending relative to each country's economy began to approach British levels, then total spending on European television—currently about $4 billion a year—could easily rise by $2 billion or $3 billion.

SOME OF THAT SWAG would be diverted from other media, but some would be new. "It wouldn't be a case of ad agencies tricking advertisers into spending more than they otherwise might," says John Perriss, media director at the British agency of Saatchi & Saatchi Garland-Compton. "TV is the medium of the age. The consumer finds it a sexy medium, and so does the advertiser. The motives aren't rational. But for many product categories and many brands, TV is arguably the most effective communicator, particularly if you've got a proposition that isn't very interesting. What would you say about Coca-Cola if you didn't have TV?" With freer access to TV, the argument goes, current and would-be multinational mass marketers would step up advertising to better pursue in Europe what they're looking for everywhere: higher volumes, lower costs, and the above-average margins that flow from a dominant market share and strong brand identity.

Though English is the most widely understood language in Western Europe, language differences have to some extent kept Europe from being a mass market. Five to ten years from now, technology might change that. Satellites could distribute common programming across Europe with different sound tracks for each linguistic market. The challenge for advertisers would be to come up with images that evoke the same response from people in different cultures—boy-meets-girl, mother and child, and so forth.

The pioneer in exploiting the various demands of advertisers, viewers, and cable-minded governments is Satellite Television PLC, a London company in which News Corp., the media conglomerate run by the ubiquitous Rupert Murdoch, recently acquired a controlling interest. (For more about Murdoch, see the story on page 60.) For five hours each evening—soon to be expanded to eight—Satellite Television distributes a basic service called Sky Channel to cable systems reaching more than half a million households in Norway, Finland, Switzerland, Austria, West Germany, and the U.K., and to a lone outpost in France, the 1,000-room Meridien Hotel in Paris. The channel consists of low-budget English-language entertainment unlikely to tax the comprehension of viewers who understand even a little English—pop music, sports, movies, and recycled series such as *Fantasy Island*, *Starsky & Hutch*, and *Charlie's Angels*. It's all punctuated by advertising.

Satellite Television is the brainchild of Bri-



GRAHAM FINLAYSON

SEBASTIAO SALGADO JR.—MAGNUM

Brought to You by Rupert Murdoch

In a London studio (top photo), an announcer (visible on monitor) rehearses for an evening of Sky Channel, Rupert Murdoch's satellite-distributed cable TV service. Peruvians Eduardo Pagador and his daughter Carmen (below) tune in Sky Channel at the Hotel Meridien in Paris.

an Haynes, a onetime producer for a British current-affairs TV program who spent several months in 1979 researching and producing a segment on the booming U.S. cable TV business. As Haynes recalls, "The obvious question was, could you do the same thing in Europe?" He determined that Europe had the necessary ingredients—a satellite in orbit capable of relaying TV signals, and plenty of cable systems on the ground—but that nobody had brought the two together. "As with any invention," he says, "the parts are usually just lying around."

As was the case in the U.S. before the rapid expansion of cable and pay television in the late 1970s, European cable systems were built to improve TV reception by relaying signals from central antennas to viewers' homes. Estimates vary as to how cabled Europe really is; the Economist Intelligence Unit figures that of 122 million households in Western Europe, about 25% receive television signals by some sort of cable. Systems that sometimes cover entire cities prevail in small countries such as Belgium, the Netherlands, and Ireland that pick up a lot of cross-border broadcasting.

HURTLING THROUGH SPACE 22,300 miles above the TV viewers of Europe is something called the Orbital Test Satellite, launched in 1978 for Eutelsat, an association of PTTs. The satellite was intended to relay data and voice, but as Haynes discovered, it had plenty of spare capacity and could easily handle television as well. In 1981 Haynes won permission to rent a transponder. Through the Barclays and Guinness Mahon merchant banks, he raised $8 million from investors to bankroll Satellite Television through its first year, and started transmitting in the spring of 1982. As Haynes explains his programming philosophy: "European television has hours on end of lengthy shows about how butterflies respond to light, while what people really want is a bit of cops and robbers."

From the start, Satellite Television's challenge has been to minimize operating losses while building audiences large enough to attract revenues. This involves persuading cable operators to set up decoders and dish antennas three to five meters in diameter to receive the signal, and prevailing on governments to allow it in. By last summer the company was looking for a new shot of capital, and News Corp. kicked in $7.4 million for a 69% equity stake. "Murdoch brings muscle and management to the company," says Haynes. "They say he's bought every newspaper in the world that he wants bar one, and nobody knows what that one is—maybe *Pravda.* So who better to become Luke Skywalker than Rupert Murdoch?"

Under Patrick Cox, the company's Murdoch-appointed managing director, Satellite Television recently moved from the aging Orbital Test Satellite to a transponder on the new European Communications Satellite, launched last summer. The company is seeking to bring its signal into such additional countries as the Netherlands, Sweden, and Denmark, and to add cable systems in existing markets. It wants to increase its network from 500,000 to 2.5 million connected households by the end of the year.

A legion of blue chip advertisers has tried Satellite Television, including Unilever, Coca-Cola, Wrigley, Kellogg, Polaroid, and Schweppes. So has a used-car dealer in Norway. He didn't mind reaching a lot of people in Switzerland and Finland who wouldn't buy his cars; he was taking a first-ever opportunity to reach his fellow Norwegians on TV. But revenues will remain negligible until the channel accumulates a substantial audience and can produce audience research demonstrating that people are tuning in.

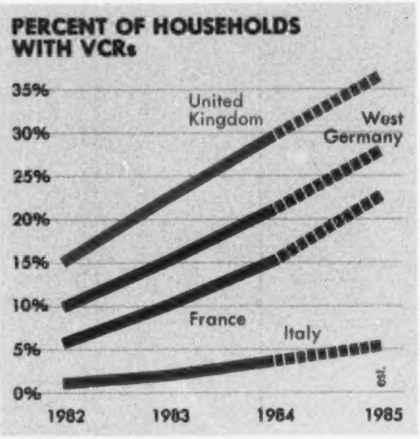
GRAHAM FINLAYSON

In a makeshift shack *in Swindon, England, a technician connects a fiber optic link carrying a satellite signal from a nearby dish antenna to Thorn EMI's 10,000-subscriber cable system.*

WHILE MURDOCH stalks the skies as a multinational cable programmer—so far without serious competition—a herd of American heavyweights has stampeded into Britain, which has emerged as Europe's most sought-after cable market. "All the wars of Europe have been fought in Belgium," says Don Cruickshank, deputy chief executive of Goldcrest Films & Television, a major British producer. "Now it looks like all the pay television wars are being fought in the U.K."

The Yankee invasion follows some fast moves by the Thatcher government to put Britain out front. The government issued interim franchises last November for new cable systems in 11 communities of up to 100,000 households each, even before the enabling legislation for cable had made its way through Parliament. Since January the government has permitted an expansion of pay TV, previously available only in a handful of trial areas, making Britain the first major European market to accept it. Over the next couple of years, other European countries are expected to permit pay TV, and U.S. companies are anxious to gain some early marketing and programming experience in their British beachhead.

The fight promises to be something of a grudge match. Home Box Office, the largest U.S. pay TV service, prospers enormously by selling a mostly-movies channel to 43% of all U.S. cable subscribers. (HBO is owned by Time Inc., the publisher of FORTUNE.) Some Hollywood studios feel that HBO throws its weight around in negotiations over rights to show films. Entering the U.K. market, the studios have split into pro- and anti-HBO camps. Columbia Pictures and Twentieth Century-Fox have banded together with HBO, while Paramount, MGM/UA, and Universal Pictures have formed a consortium called United International Pictures. The rivals plan to mar-



SOURCE: ECONOMIST INTELLIGENCE UNIT FORECASTS

Turning to Tape

Europeans are spending heavily on videocassette recorders—a sign that they'll pay for cable TV entertainment when it's available. The U.K. leads Europe in VCRs; Italians lag because they have plenty of broadcast TV to watch.

ket competing pay TV channels consisting largely of recent feature films, distributed by satellite to cable operators.

The United International group has formed a company called United Cable Programmes with four British companies, which control most of the equity: Plessey, an electronics and telecommunications equipment manufacturer; the Rank Organization, a film distributor; and Britain's two largest cable operators, Rediffusion and Visionhire. Between them, their cable systems reach over a million households.

HBO, Fox, and Columbia share a 49% stake in a company whose majority shareholder is Goldcrest, a fast-growing outfit that has helped finance such recent films as *The Far Pavilions, Gandhi, Chariots of Fire*, and *Local Hero*. The partners say they're interested in bringing in additional British shareholders.

The U.S. combatants also have to fight off Thorn EMI, a British company going it alone without American partners. With revenues of $4 billion in the fiscal year ended last March, Thorn EMI is a heavyweight in entertainment: it produces films and records, owns cinemas, operates cable systems, distributes videocassettes, and manufactures, retails, and rents television sets.

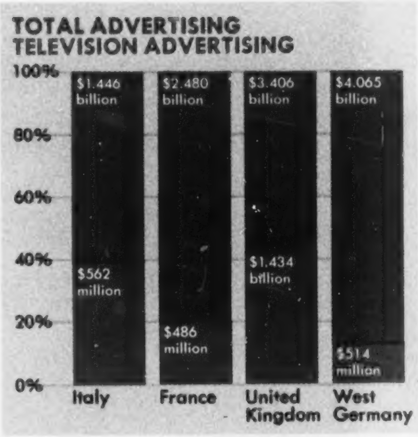
The price of admission for all these programmers will be years of operating losses before cable reaches large enough audiences to attract advertisers and generate significant pay TV revenues. Nobody apparently expects to break even for the first four years, and what happens after that depends on how rapidly cable expands. CSP International, a New York-based consulting firm, projects British revenues for pay TV programmers of just $12 million to $36 million in 1987. Revenues in the U.S. were an estimated $2.8 billion last year. By 1990, though, CSP says revenues in the U.K. could rise to a range of $180 million to $300 million, and revenues for the eight largest European markets, including Britain, could be as high as $1.8 billion.

In the lean early years, programmers will be scrambling to tailor their marketing strategies to an environment quite different from the U.S., and to apply that experience to markets beyond the U.K. Two important markets on the Continent—the Netherlands and Belgium—could jell quickly. The Dutch Parliament is expected to permit pay TV this year, and many observers predict that Belgium will follow suit. Since both countries are so heavily cabled, they could generate high pay TV revenues faster than a developing market like Britain.

Prospects for commercial television in West Germany have improved dramatically since Chancellor Helmut Kohl's center-right coalition formed a government in 1982. Kohl's predecessor, Helmut Schmidt, despised television and once referred to cable TV as "more dangerous than nuclear power." Starting last year, the Deutsche Bundespost (Germany's PTT) has been allotted a $380-million annual budget to build cable systems. Programming, however, will be up to the Federal Republic's 11 states, not the central government.

KOHL'S LIBERALIZATION is luring new competitors. The German publishing giant Bertelsmann (1982 revenues: $2.6 billion) is following what its president, Mark Wössner, calls "a policy of small steps" into the programming business. Along with several other publishers, Bertelsmann has applied for a transponder on the European Communications Satellite to distribute as yet undetermined programming to West Germany's new cable systems. And on January 2, a venture called RTL Plus, in which Bertelsmann has agreed to take a 40% interest, began broadcasting a German-language TV service from Luxembourg to a potential audience of around 1.5 million households in Germany.

In television, as in other things, the French and Italians have their own way of doing things. French President Francois Mitterrand's government is committed to investing $1 billion between 1983 and 1985 to build cable systems to 1.4 million homes, employing sophisticated fiber optic cable wherever possible. From 1985 into the 1990s, current plans call for the cabling of about one million additional homes per year. While foreign programmers are not barred, the government is trying to sew up the pay TV business through Havas, the state-controlled advertising agency, which it has authorized to set up a feature film channel. Italy has been sidetracked from the new media technology by the 1976 court ruling that spurred a proliferation of local over-the-air TV stations. There are now about 250 of them; the abundance of choice they offer has squelched demand for VCRs and kept cable on the shelf.



SOURCE: J. WALTER THOMPSON CO.

The Missing Billions

A lot of cash is available for television advertising. Advertising executives estimate that if all European countries permitted as much TV advertising as the U.K. and Italy, TV would haul in $2 billion to $3 billion more a year.

The French market could loosen up, of course, with a change in government. In Italy viewers are showing early signs of getting fed up with advertising, which suggests an upbeat future for pay TV. In any country, technological or political development could send television off in unexpected directions. But the fundamentals are in place: strong consumer interest and impressive advertising potential. And that makes a commercial package strong enough in the long run to overwhelm opposition based on fears of an onslaught of wall-to-wall *Dallas*.

■ Though it will take years for European TV to stabilize, program suppliers are building a lot of bridges to European TV viewers. While Americans now have the most programs to sell, European suppliers will be catching up because the expanding television markets are in their own backyards. Mass marketers—particularly those that have long dismissed European TV advertising as impossibly restricted—should consider crossing the new bridges with messages of their own, lest they find consumers tuned in to the competition. **F**

MARCH 5, 1984

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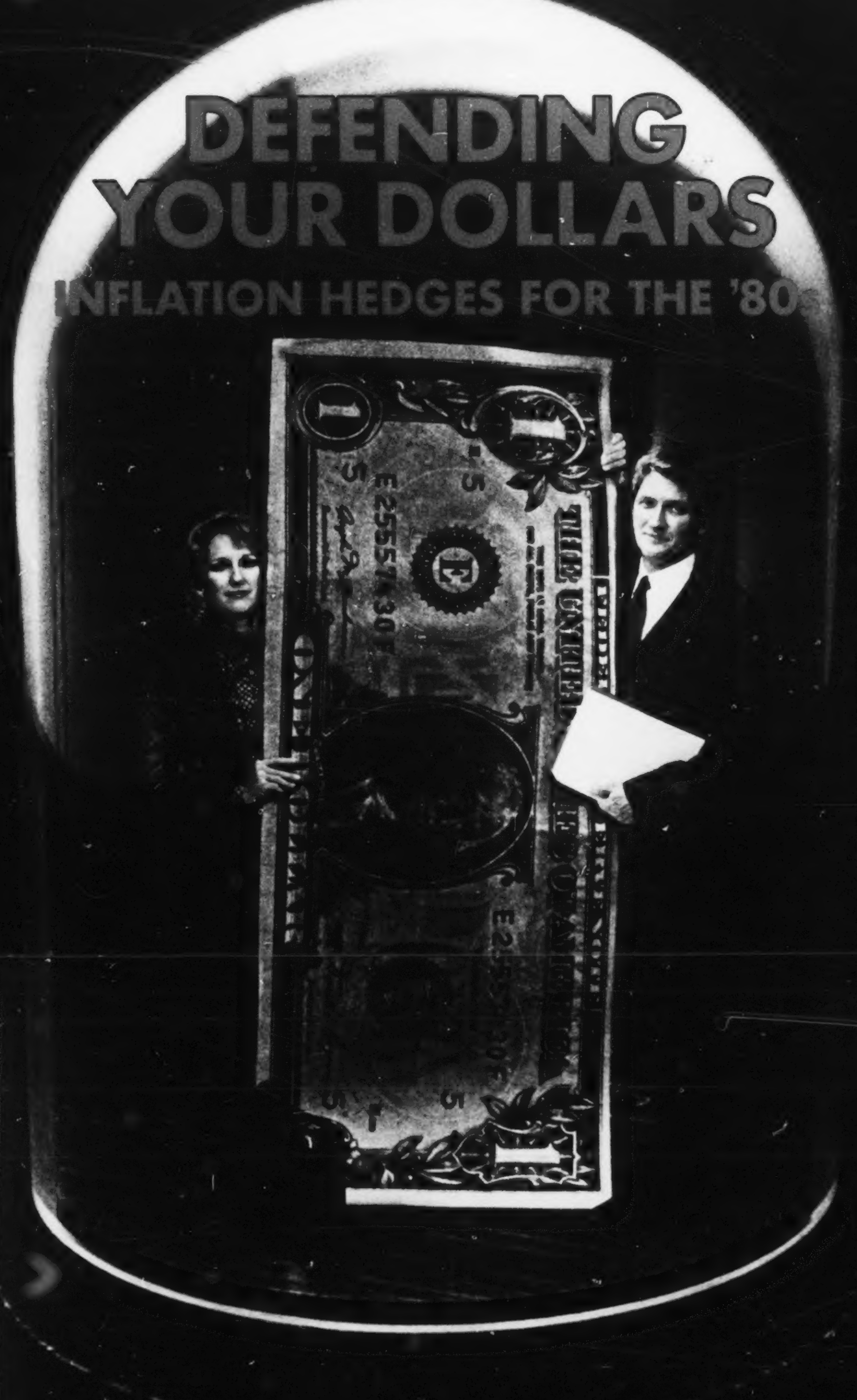

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MARCH 5, 1984 VOL. 109, NO. 5

FORTUNE
Managing

Putting your money under glass, as depicted in Carl Fischer's cover photograph, probably isn't the best way to hedge against the possibility of renewed inflation. For better bets, see page 30.

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INFLATION HEDGES FOR THE '80s

The definition of high inflation hasn't changed since the last round, but the ground rules for beating it have. A doubling of today's rate, to around 9%, would call for new investment strategies. Collectibles would look worse. Stocks might look better.

■ *by Ford S. Worthy*

Merrill Lynch:
A Breed Apart.

Stocks have the eyes *in Merrill Lynch's Stamford, Connecticut, office where an overhead screen answers customers' keypunched queries.*

PHOTOGRAPH BY GEOFFREY BIDDLE

WALL STREET isn't exactly worrying itself sleepless over the prospect of high inflation. "Anyone who thinks it's even a possibility better first go see a shrink," giggles one analyst for a large investment firm. Many economists aren't chuckling, however. Inflation is alive and kicking and could come back swiftly if only a few things go wrong (see The Economy).

How far would prices have to shoot up before inflation looked high enough to call for new investment strategies? A doubling of today's inflation rate to about 9%—not far from what moderately pessimistic economists are expecting next year—would certainly do it. Barry Bosworth, who headed President Carter's Council on Wage and Price Stability, thinks the kind of inflationary expectations that would affect the investment outlook erupt when the rate nears 7%.

The U.S. investor who concludes that troublesome inflation is indeed around the corner may be tempted to rush to the shelves and haul down the old strategies he used in the late 1970s. Many of them, he will soon discover, are out of date.

No one needed great financial savvy, for instance, to figure out half a decade ago that almost any package of alternatives offered a better chance to stay whole during double-digit inflation than a 5½% passbook savings account. Nor was genius required to see the other side of that coin: thanks to usury laws now repealed, many consumer loans carried interest rates below the rate of inflation. In effect, the lenders subsidized the borrowers. Cheap money reduced the risk of speculative gambles on precious metals or collectibles and fattened the returns on solid investments like waterfront real estate.

Inflation itself changed the ground rules for dealing with inflation. As it took off during the late 1970s, many investors shifted their savings into money market mutual funds. Then came banking deregulation—provoked, in part, by the discomforts inflation was bringing to the banking system—and with it, a variety of ways for consumers to earn money market rates that approximated the inflation rate. These and other changes have shifted the relative merits of just about all the hedges an investor might consider for the 1980s. The principal choices:

▶ **THE BANK.** One result is a new anti-inflation strategy of stunning simplicity: leaving your money in the bank. Money market deposit accounts pay interest rates roughly equivalent to the yield of three-month Treasury bills. They require a balance of $2,500 and limit check-writing privileges. Super NOW accounts pay a percentage point or two less, but let you write all the checks you want. Certificates of deposit—available in amounts as low as $500 and at maturities as short as three months—can offer yields comparable to those of T-bills.

Most analysts see inflation—accompanied by still-higher interest rates—as the biggest threat to stocks. When prevailing wisdom reaches an overwhelming consensus, it's usually time to wonder about the alternatives.

▶ **TREASURY BILLS.** Banking your money promises to leave you roughly whole when inflation takes off and requires neither effort nor risk. But short-term Treasury bills—the shorter the term the better—traditionally give investors who can put up at least $10,000 a slight edge on inflation over time. Some of the most interesting new hedging opportunities are designed for institutions and sophisticated investors—though like many other recent financial innovations, they could eventually spread into the consumer marketplace.

Dimensional Fund Advisors, a Chicago-based investment outfit, introduced a mutual fund last summer designed by Eugene F. Fama of the University of Chicago, one of the leading researchers on the relationships between short- and long-term interest rates of debt securities. The appropriately named Inflation Hedge Portfolio is aimed at taking advantage of the higher yields that longer-term securities earn, while maintaining the character of an inflation-hedging, short-term T-bill. The fund typically holds securities whose average maturity is four to nine months and so far has been realizing a premium over one-month T-bills of between one and two percentage points.

▶**FUTURES.** These are also mainly for institutional investors, although until 1979, when Treasury bond futures took off, money managers were generally inexperienced in futures trading. A lot of other inflation-sensitive futures contracts have since sprung up, based on everything from CDs to Eurodollar certificates. Even conservative pension fund managers, who used to view the trading floors as gambling casinos, have begun to hedge their bets with them.

Perhaps the most literal-minded inflation hedge is a futures contract pegged directly to the consumer price index. Devised by the Coffee, Sugar & Cocoa Exchange, the CPI contract awaits approval by regulators. Companies whose labor contracts have built-in cost-of-living increases, for example, could buy futures that tracked the CPI. The proposal is endorsed by Nobel laureate economist Paul Samuelson, and rival exchanges are trying to devise competitive contracts.

▶ **REAL ESTATE.** A staple of the last inflationary cycle, real estate remains attractive—although the combination of higher interest rates and new tax laws means it will have to be approached somewhat differently.

Commercial real estate combines the virtues of a productive asset with those of a store of value. Rents not only yield income but add to resale value as long as they keep up with inflation; appreciation is taxed at low capital gains rates, and the investor gets to pay off his debt with cheaper dollars.

The real estate industry has become adept at indexing costs to inflation. Most commercial leases signed today have some form of acceleration clause that calls for the rent to go up periodically to help offset expected inflation. But returns on real estate deals over the past ten years have increasingly come from price appreciation and tax treatment. The tax act of 1981 vastly speeded capital recovery through more favorable depreciation rules. Commercial buildings that under the old rules would have been depreciated over 30 or more years may now be charged off in 15 years. One problem is that the better tax treatment has sucked in floods of money from limited partnership tax shelters, driving up the cost of some deals so much that they make sense *only* from a tax angle.

Home ownership won't produce quite the returns it did before fixed-rate mortgages began disappearing from the landscape. Nearly half of all new U.S. mortgages are tied to rates that vary with market interest rates. But owning your home is still a good inflation-hedging investment, primarily because mortgage interest payments are tax deductible, and any appreciation that occurs is usually tax exempt.

▶ **STOCKS.** The investor attuned to thinking differently about the next inflationary upswing will want to ask some of his most searching questions about stocks. The prevailing wisdom prior to the early 1970s was that stocks were one of the best hedges against inflation. By the end of the decade, shaken investment advisers had recanted utterly, save for a few forlorn but accurate brokers who kept chanting that the present was clearly the best time to buy stocks since they were so undervalued. Today most analysts see inflation—accompanied by still-higher interest rates—as the biggest threat to the market. When prevailing wisdom reaches an overwhelming consensus, it's usually time to

RESEARCH ASSOCIATE *Daniel P. Wiener*

start wondering about the alternatives.

One good reason to think differently about stocks and inflation is that companies are generally in better shape than they were in the late 1970s. Government regulation does not threaten to impose as many new costs in the future. Having become more energy efficient during the oil shocks of the 1970s, corporations are less likely to be overwhelmed by any future jumps in energy costs.

Doubt remains about some of the vaunted productivity gains the recession was supposed to have brought about, but managers have improved their operations in other important ways. Many industries have measurably lowered their breakeven points and trimmed overhead. Companies are taking advantage of tax changes enacted in 1981 that allow faster depreciation charges that more closely reflect replacement costs—and in some cases exceed them. They are financing more investment out of cash flow, and have strengthened balance sheets by issuing more equity and less debt. Double-digit inflation also taught managers how to base decisions on real, or inflation-adjusted, information. Inflation-sensitive assets like cash and receivables are closely monitored, often daily, by companies of all sizes.

ANDREW DICKERMAN—PICTURE GROUP

Staking an early gold claim *was relatively cheap in the inflationary 1970s, when interest rates were low. Now investors will have higher holding costs to think about before rushing into the market.*

JOHN CHAO

Home is where the heart is, *but it's also been a good investment during rapid inflation. As the chart on the facing page shows, returns on housing exceeded increases in the CPI during inflation.*

Sounder management should yield higher profits, which in turn might produce fatter dividend checks—perhaps leading even stubborn skeptics to reconsider the notion that inflation hurts stocks.

Alternatively, the skeptics could grab hold of a theory that explains how stocks performed reasonably well against inflation for much of this century: put simply, it's that inflation doesn't affect stock returns at all. Gene Fama contends that the high negative correlation between stock returns and inflation is spurious. He finds a more important correlation between one year's real return on stocks and the following year's change in real gross national product. The returns, he argues, depend mainly on how investors see next year's economy shaping up—a forecasting job they seem to do rather well.

Fama's theory hasn't many adherents on Wall Street, but it makes room for a correlation between the miserable performance of stocks in the 1970s and factors other than inflation. In this analysis, stocks were mainly hurt by uncertainties about future costs raised by such external forces as OPEC, environmental regulations, and deregulation. These particular uncertainties have largely waned, suggesting a brighter future for stocks in the 1980s—although an investor will need to judge whether the uncertainties of the 1980s could produce equally high unexpected costs.

Whether such contrarian thinking pays off, of course, depends largely on how long it remains contrarian. If the market continues to reject it, investors will be back to basics. They'll have to sort out companies, or classes of companies, that seem likely to outperform others during inflationary times. Perhaps because the subject hasn't been getting much thought recently, most analysts tend to recommend familiar-sounding strategies. Most favored are companies with lots of tangible underlying assets—coal reserves, timberland, silver deposits.

Productivity plays could become sought after, however. High-tech companies—semiconductor manufacturers, for example—have a demonstrated ability to keep lowering costs, so they don't have to raise prices frequently. But some smokestack industries could produce pleasant surprises. If automakers hold to the courses they have set, their tauter organizations and lower breakeven points should help them stay profitable in the face of inflation—and import competition. Exporters should benefit, too, as inflation causes the dollar to fall.

▶ **COLLECTIBLES.** The best argument for thinking hard about stocks may be that so many other formerly attractive alternatives look less sure. Collectibles, for example, were so hot the last time around that a few years ago John L. Marion, the president of Sotheby Parke Bernet Inc., was besieged by financial managers asking for his assistance in putting together funds of collectibles. He told them their schemes would never work: "People buy these things because they like them and want to own them." Few if any collectible funds materialized, but plenty of individuals wound up buying art or Tiffany lamps as investments—only to realize that they didn't pay any dividends or even always have a market of interested buyers.

▶ **GOLD.** Even the case for gold appears relatively uncertain. Gold has proved itself a superior store of value for thousands of years, though not in the 1980s, and has outpaced inflation since 1974. Its problem these days is the high cost of money. Most gold is bought with borrowed money, and dealers and banks typically charge three percentage points over the prime rate. Storage, insurance fees, and sales commissions add approximately three more percentage points. Real interest rates—derived by subtracting the inflation rate from the prime rate—were about 2% five years ago; today they are closer to 7%. An investor who bought gold in 1979 would have stayed even with inflation if its value in real terms had risen only 8% or so a year. To keep up today, an investor needs at least a 13% return. A fall in rates would make gold more affordable but would also diminish the main reservation the market has about the value of stocks.

Gold might nonetheless appear to offer interesting speculative possibilities—who can forget its dazzling rise back in early 1980? Some experts think the drubbing many investors took during gold's no less dazzling fall will keep many would-be players away. Others see a wider market in the making. Most large banks and brokerage houses now offer some way to invest in gold. While the metal has always been precious to the masses, Wall Street has put an even more respectable polish on it by endorsing it so heavily over the last few years. In January, Citibank announced that Visa and Mastercard holders can buy gold and silver bullion with a mere phone call. Citibank will buy, store and insure, deliver if you like, and sell your gold when you're feeling more kindly toward, say, stocks. At Merrill Lynch you can invest as little as $50 at a time after you make an initial $100 purchase.

Easy access could have interesting price implications if everybody decides to hold a nugget or two. Says R. Leslie Deak, the president of Deak-Perera, the precious metals and foreign currency trading firm: "The demand would outstrip supply. This makes me believe that under another rapid inflation scenario the increase in the price of gold would be even more dramatic than in 1980."

So, presumably, would the fall. One of the major differences between the inflation of the 1970s and a new bout in the 1980s is apt to be its duration. During the run-up of the late 1970s, investors and policymakers alike were seized with a sense that the upward spiral was probably unstoppable. But the U.S. finally did come to grips with inflation. Pain there was, but terrible and apocalyptic things did not happen. So the national will for containing inflation will probably be stronger next time, and the response of policymakers quicker and firmer.

The prospect of a sudden shift to disinflation should at the very least increase the danger attached to precious metals, gems, collectibles, and other tangibles subject to speculative fevers. A successful inflationary strategy for the 1980s will have to include a judicious consideration of downside risks. ■

	DURING INFLATION		DURING DISINFLATION	
ASSET	COMPOUNDED ANNUAL RATE OF RETURN, 5 YEARS, 6/76–6/81	RANK	ONE-YEAR RATE OF RETURN, 6/82–6/83	RANK
U.S. stamps	32.9%	1	(6.2%)	10
Gold	30.7%	2	28.6%	4
Chinese ceramics	30.7%	2	0.0%	8
Silver	20.1%	4	109.5%	1
Diamonds	16.9%	5	0.0%	8
Old masters	16.8%	6	1.7%	7
Housing	11.6%	7	2.1%	6
Stocks	9.8%	8	51.8%	2
CPI	9.7%	9	3.9%	5
Bonds	1.1%	10	39.0%	3

SOURCE: SALOMON BROTHERS

The Two Faces of Hedging

Gold and collectibles soared from 1976 to 1981, but stocks and bonds were winners once prices slowed. Precious metals' disinflationary luster is part illusion: their prices bottomed out in June 1982. Figures for the CPI represent returns on an investment that perfectly reflects the index's rise.

JOHN CHAO

Chagall's "Hommage au Passé," *at Doyle Galleries in New York, has done well as an investment. But the best reason to bid at Doyle's auction in May is because you want it on your wall.*

DEALS

U.S. STEEL AND LTV FIND HIDDEN CHARMS IN LOSERS

Both companies repeatedly said they wanted to reduce their dependence on steelmaking. Yet here they are getting in deeper—and wrenching themselves financially to do it. The excuse they lean on is something called "rationalization."

■ *by Carol J. Loomis*

PHOTOGRAPH BY MICHAEL ABRAMSON, CHICAGO

THE TWO GIGANTIC steel deals in the works—the merger of Republic Steel into LTV Corp. and the acquisition of National's steel operations by U.S. Steel—are understandable enough for two of the companies involved. Naturally Republic and National would want to sell out: together, over the last two years, they lost more than $1.2 billion on steel, and who needs businesses like that? The harder to answer question is why LTV and U.S. Steel would want to buy.

The pair certainly are not reaching out in steel because they have been doing well in that business themselves. In 1982 and 1983 LTV's steel company, Jones & Laughlin, had total operating losses of $499 million, an amount that more than wiped out J&L's profits in the two previous years. U.S. Steel's pretax losses on steel in 1982 and 1983 were still greater—roughly $1.5 billion, including a write-off of more than $1 billion arising from the company's recent decision to close down about one-sixth of its steelmaking capacity. The two years put the clincher on an abysmal decade for the country's biggest steel producer, in which the years of black ink didn't begin to compensate for the red. All told, before tax credits, U.S. Steel lost around $1.8 billion on steel in the decade.

In the midst of it all, both companies declared their firm intent to reduce the importance of steel in their business mix. LTV tried and failed to buy planemaker Grumman, expanded otherwise in aerospace and defense products, and, until the market evaporated, coined money selling oil field equipment through a subsidiary called Continental Emsco. Playing the energy game also, U.S. Steel shouldered a mountain of debt and bought Marathon Oil, transforming itself into a company that gets more than half its sales from petroleum products. All the while, LTV and U.S. Steel vocalized their unhappiness with steel, deploring the cold, hard facts about the U.S. industry: it is a mature commodity business, short on capital and modernized facilities, beset by high labor costs and foreign competition.

And yet here the two companies are, proposing to expand in steel, and furthermore wrenching themselves financially to do it. To buy Republic, LTV will hand over common and convertible preferred stock recently valued at some $700 million. That's only about 60% of Republic's book value, but LTV will also assume around $800 million of Republic debt, to be piled on top of about $1.6 billion that LTV itself carries. The combined company will end up with debt that is close to 60% of total capitalization—though if that sounds uncomfortable it is no thinner ice than LTV is used to.

The final details of the deal between U.S. Steel and National Intergroup (until last year, known less amorphously as National

Riverbank neighbors, *Republic Steel's Cleveland mill (on the left) and LTV's (on the right) will be run as one if the companies merge.*

COMPANY	1983 SALES Billions	Percent from steel	1983 LOSS Millions	1983 STEEL PRODUCTION Millions of tons of raw steel	Percent of capacity utilized	STEEL EMPLOYMENT Peak during past ten years	1983	Percent decline
U.S. STEEL	**$17.5**	**34%**	**($1,161)**	**14.8**	**47%**	**116,400 (1974)**	**74,500**	**36%**
NATIONAL	**$3.0**	**79%**	**($154)**	**5.3**	**81%**	**33,000 (1974)**	**12,000**	**64%**
LTV	**$4.6**	**64%**	**($181)**	**7.7**	**57%**	**50,000 (1979)**	**21,200**	**58%**
REPUBLIC	**$2.7**	**98%**	**($326)**	**6.3**	**58%**	**44,000 (1974)**	**26,500**	**40%**

Steel Has Been a Hard, Hard Business

The four companies involved in the two big steel deals rang up combined losses of $1.8 billion last year, counting write-offs at U.S. Steel, National, and Republic. But National's good operating rate—81% of capacity—enabled that company to make money on steel production, which the other three did not. Republic's near-total dependence on steel has made it especially vulnerable to the industry's slumps, though the energy subsidiaries of U.S. Steel and LTV have recently proved unreliable props also. National's 1983 sales and production figures include results at its red-ink Weirton, West Virginia, plant for the year's first four months, after which National sold the plant to Weirton's employees; National's 1983 loss includes only a $100-million portion of the losses incurred in the disposal of Weirton. Displaying palpable relief, a U.S. Steel spokesman says, "Our deal with National is Weirton-free." The 1974 peaks in employment for three of the companies reflected huge demand for steel, partly a result of over-accumulation of inventory by customers. LTV's peak employment followed its acquisition of Youngstown Sheet & Tube in late 1978.

Steel) have not yet been announced. But it appears that U.S. Steel will pay $575 million straight out—an amount that one competitor estimates is roughly the book value of the steel operations being acquired—and assume debt from National that has a present value of about $350 million. The $575 million will be a package made up of cash and preferred stock (at least part of it convertible), with the precise split to depend on U.S. Steel's ability—and willingness—to raise money by selling common stock in the market. The willingness may be the tough part, since the stock has recently been selling under $30, not much better than 60% of book value. If U.S. Steel accepts such a price yet pays book for National's properties, it will be making a rather unbalanced trade.

FURTHERMORE, the assumption of debt in that deal and also in LTV's does not tell the full lurid tale about liabilities. Both companies will also be assuming pension obligations. The details of what U.S. Steel is getting from National haven't been revealed, but the pension plans passing from Republic to LTV are substantially underfunded. Beyond that, steel balance sheets simply ignore the potential effects of plant closings, which dramatically increase pension burdens. So U.S. Steel and LTV are taking on potentially large liabilities not even mentioned in the company announcements of the deals.

The excuse for all this is "rationalization," a word used by both U.S. Steel and LTV to explain the logic of their deals. But the term plainly does not have precisely the same meaning at LTV Tower in Dallas as it does at U.S. Steel's headquarters in Pittsburgh.

RESEARCH ASSOCIATE *Wilton Woods*

The thinking at LTV was recently described by its 53-year-old senior vice president for finance, James J. Paulos, who is the designated spokesman about the Republic deal. A veteran of 28 years in the steel business, Paulos is stark in his assessment of it: "You start from the premise that nobody has any particular interest in becoming bigger in steel per se. You also start with the perspective that almost anybody, given an acceptable price and acceptable business alternatives, would have an interest in divesting steel."

But no generous offers have been showered on LTV, and in early 1983 it stepped up a search for other means of relief. Merger seemed a possibility, for an odd reason. Putting two steel companies together, says one Wall Street expert on the steel industry, is like taking two old cars and combining the best parts of each. "You end up with one car that's not bad. True, it's not new. But by merging you cut costs, avoid some capital investment, and buy yourself some time."

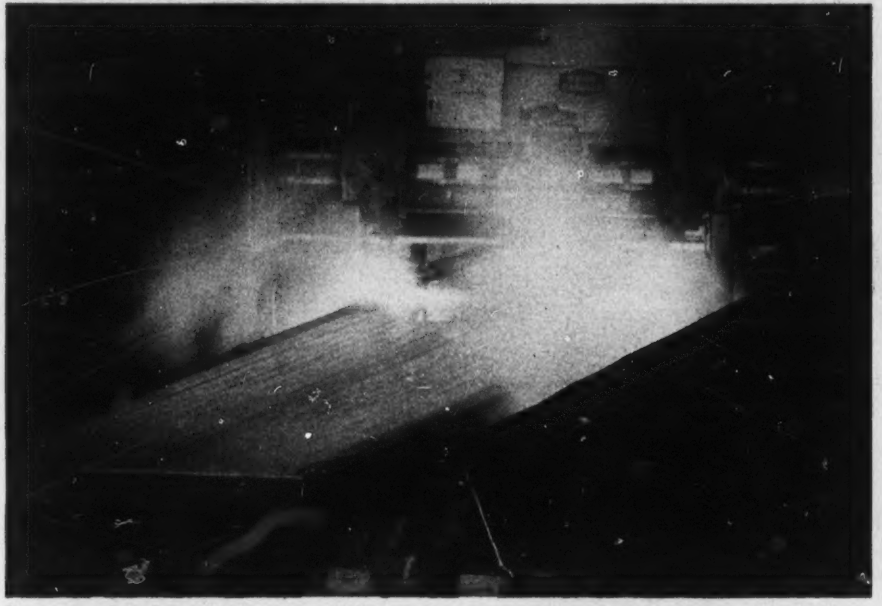
From LTV's standpoint, the most compatible car around, so to speak, was Republic, No. 4 in the industry to LTV's No. 3. The two companies basically make the same products—sheet steel, bars, seamless pipe, and stainless steel—and if you're trying to cut costs, commonality is a virtue. In addition, Republic was financially weak and growing more so. Needing help of some kind, it was ready to talk merger.

The negotiations blew hot and cold, however, says Paulos, and for a time even contemplated that Republic might acquire J&L, instead of LTV being the buyer. "So," says Paulos, "we had three questions to look at. Should we sell J&L? Should we do nothing with respect to Republic? Or should we acquire Republic?"

A PROBLEM WITH SELLING J&L, says Paulos, was that Republic, strapped for cash, could offer only stock as payment. That meant LTV wouldn't be getting out of steel if it sold, only giving up direct control. A further drawback was the character and weight of the aerospace and energy businesses that LTV would be left with. In LTV's opinion, they would not have supported the company's stock price (now about 80% of book value) or provided the cash flow to service the parent company's debt, which amounts to about half the $1.5-billion total. That proposition has its ironies, since right now steel is not up to supporting anything. But LTV had a recent year, 1981, in which it made $336 million on steel (much of it earned on seamless pipe sold to the oil industry). The company's thoughts inevitably focus on a return to such days.

The decision, then, was not to sell out to Republic, but instead to keep drumming along in steel. "Once you come to that conclusion," says Paulos, "you're really back to the way we've been playing steel all along.

You've got to maintain your competitiveness." And that moved the question to whether the acquisition of Republic could improve J&L's position. Yes, said the LTV analysis: "very large benefits" would flow from the combination. Of course, adds Paulos, the deal could not be done were LTV required to pay cash, rather than stock. (The form of payment, naturally, will leave Republic's shareholders at the moment of merger still in the steel business, though it also provides them with diversification because of LTV's operations outside steel.)



Low-cost leaders, *National's steel plants make heavy use of continuous casters, such as this one at the Great Lakes works. National makes 60% of its slabs on casters, U.S. Steel only 18%.*

Some of the "very large benefits" will be the normal variety arising from a horizontal merger: two sets of administrative costs will be whittled to one. But the greater savings are expected to arise from manufacturing efficiencies, as J&L's 13 million tons of capacity and Republic's ten million are meshed. In that line of endeavor, LTV has experience, born out of its work in putting J&L and Youngstown Sheet & Tube together after the 1978 merger between LTV and Lykes Corp., which owned Youngstown.

On that occasion, J&L shaped up operations at one Youngstown Sheet plant—Indiana Harbor, outside Chicago—and made the mill a source of raw steel for J&L's finishing facilities in Hennepin, Illinois. The blast furnaces at the other Youngstown Sheet plant—at Youngstown, Ohio—were shut down and its finishing mills were supplied with steel made at nearby J&L facilities, whose furnaces could operate more efficiently with the added load. The effort was an impressive success. At its conclusion, the J&L-Youngstown combination had less stated steelmaking capacity than it had started with. Yet barring a boom market for American steel—O foolish dream!—the companies had retained a practical ability to serve their customers fully. They, in fact, lost none of the market share they had enjoyed as separate companies. The savings, meanwhile, added up to about $100 million annually, or around $15 a ton on an average year's production.

And that, says Paulos, is "rationalization," which is to be contrasted, and devoutly preferred, to "shrinking." To him, shrinking means both fewer mills and less business, accompanied by a grave risk that revenues will drop more sharply than fixed costs. Rationalization, on the other hand, means fewer mills and the *same* business. "That's the only quarrel I have with the used-car analogy," says Paulos. "It leaves you running one car instead of two, and to me that sounds like shrinking."

Because the Department of Justice is right now considering the antitrust implications of this proposed merger (on which it is expected to rule before the end of February), LTV is sparing with details about the rationalizations it has in mind. But the list of things Paulos is willing to talk about begins with production in Cleveland, which forms, says one knowledgeable Wall Streeter, "the heart of

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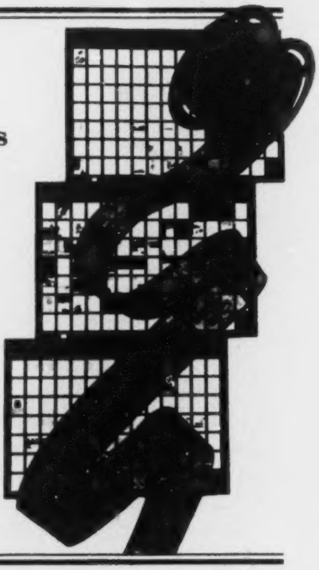


the merger." Both companies have large mills in the city and they are located right across the Cuyahoga River from each other—as the fish swims, no farther than 100 yards apart. After the merger, assuming it comes, the combined company will run the two plants as one, using the most efficient facilities of each.

Further rationalizations, says Paulos, will derive from three plants—in Chicago, in Aliquippa, Pennsylvania, and in Canton, Ohio—where Republic and J&L variously make bars and seamless pipe. Three plants are one too many, asserts Paulos. But he isn't prepared to say which will be closed or when.

NOR WILL HE PUT a figure on the savings that may ultimately be wrung from these rationalizations and others the companies have in mind. He will only predict "very substantial" gains. Wall Street's estimates range from about $200 million annually to $700 million. Analysts in the upper reaches of that range, implies Paulos, have let themselves get carried away.

Summing up the case for the merger, Paulos says that the savings, whatever they turn out to be, could not have been attained by either company operating separately. On their own, he claims, neither J&L nor Republic would have the ability to close down major steelmaking operations while retaining an adequate revenue base. His point is supported by Father William T. Hogan, a Fordham University professor of economics who is an expert on steel: "It's simply easier to pare down one 23-million-ton company than two of half that size."

The point suggests that U.S. Steel, still a 26-million-ton company after its write-offs, might have been big enough to work out its rationalization internally rather than through purchase of another company's steel operations. No designated spokesman materializes to explain the choice: pending a review by the Department of Justice of the plans, the company's top executives have made themselves unavailable to the press. However, the head of steel operations, Thomas C. Graham, did appear before New York security analysts on February 1 to announce the bombshell. The reaction he got, says John Gagliano of Paine Webber, "was shock and a deafening silence." Some analysts were no doubt mentally trying to absorb the thought that U.S. Steel was actually proposing to expand in steel. Others may have been asking themselves how U.S. Steel could ever expect Justice to condone this transaction—the

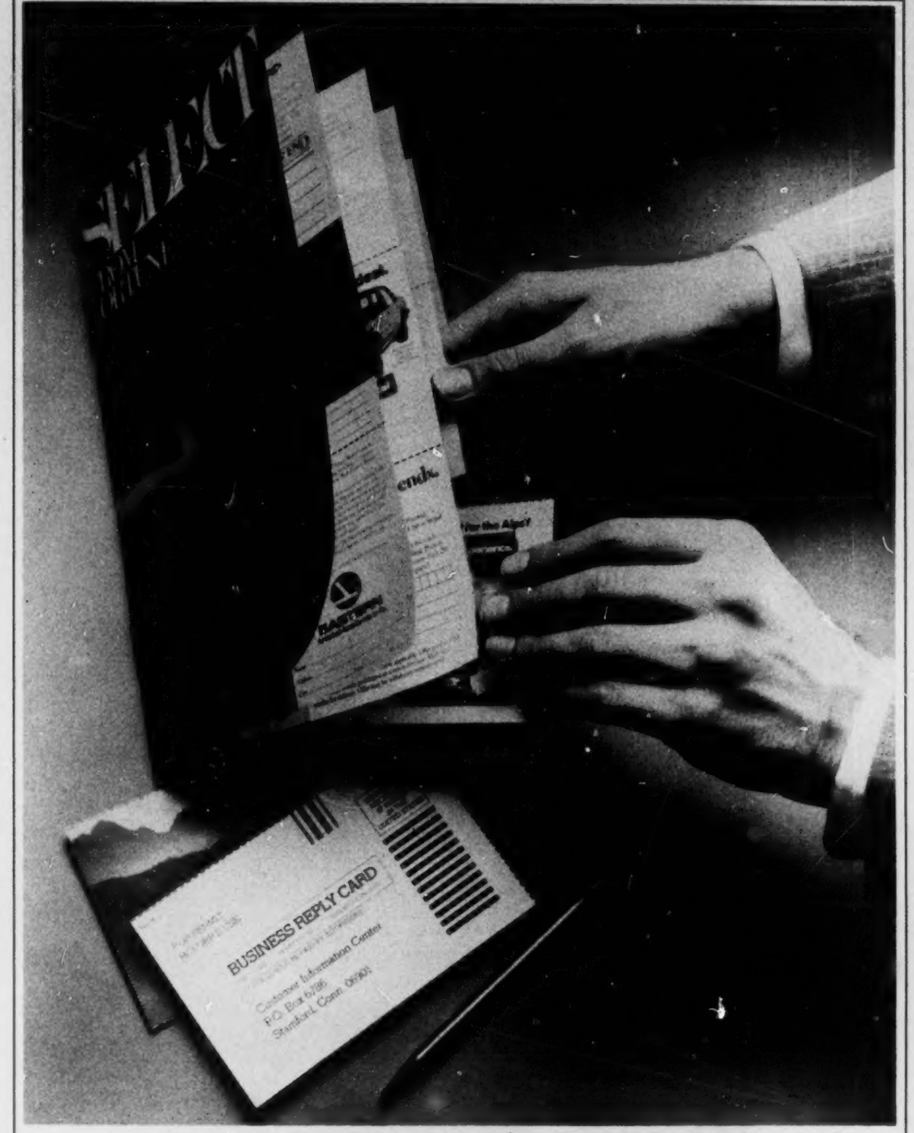
No. 1 steel company (carrying a name that, rightly or wrongly, connotes power) buying the seventh-largest steel operation.

To that bowled-over audience, Graham presented U.S. Steel's rationale for the deal, which turns around the fit between the two operations: National's core business is sheet steel, sold mainly to automobile and appliance companies; U.S. Steel is an also-ran in that business. National is short on coke; U.S. Steel is long. National needs slab steel; U.S. Steel has excess capacity that can supply it. Some synergies should be possible between U.S. Steel's Gary, Indiana, plant and a nearby National finishing mill. All together, according to U.S. Steel, annual savings of $170 million look feasible, to be garnered equally from raw materials, administration, and operations. Moreover, National has some of the industry's most modern plants, to be acquired by U.S. Steel at a cost of about $200 an annual ton of capacity. That compares, U.S. Steel says happily, with costs of perhaps $1,800 to $2,000 per ton for a new, or "green field," plant.

The comparison is somewhat irrelevant: no one talks these days about building a green-field steel mill in the U.S. Nor does this seem to be a pure case of combining two old cars to make a better one. Instead, U.S. Steel appears to covet National's roadster, which in a relative sense has been burning up the road. Last year, enjoying the strong market in both cars and appliances, National actually operated at 81% of capacity, its best level since 1974.

That performance, though, took place in an environment of weak prices and produced only $22 million in operating profits (before write-offs that sank National's steel division deep into the red). Even profits in National's best quarter, the fourth, were anemic, $31 million. Pretax profits like that are not enough to give U.S. Steel an adequate return on its proposed investment of more than $900 million. To make this deal worthwhile, U.S. Steel must obtain a lot of the savings it is projecting.

THE APPARENT ARCHITECT of this deal was Tom Graham, whom Chairman David Roderick brought into the company last May. Before that, in an interesting chain of events, Graham ran J&L, where he participated in (and reportedly applauded) the beginning rounds of talks with Republic. Graham, 57, is respected for the job he did integrating Youngstown Sheet into J&L and for improving labor relations and productivity at J&L. He is also out of the



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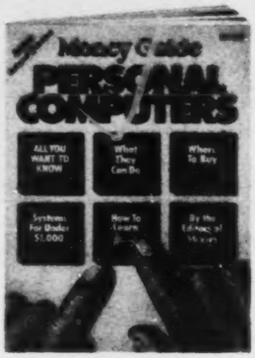

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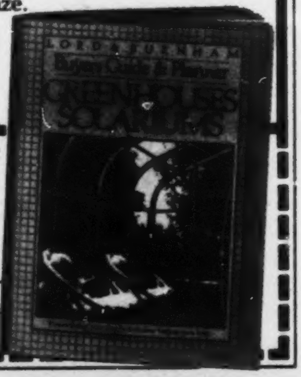

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school that believes profoundly in market share. In a speech he gave in September to analysts, he noted that U.S. Steel had lost about five percentage points in share between 1979 and 1982 (dropping to a 16% share of American steel shipments) and stated his intention to regain position. The National deal, though an unorthodox way to climb, would indeed restore the five points and a bit more.

A U.S. Steel competitor, who appears to admire market share himself, says the company's plans to strengthen its position in sheet steel are intelligent: "It points them in the direction all steel companies have to go." But Jim Paulos says that he, for one, would not have chosen U.S. Steel's strategy. He speaks, again, out of his "inherent aversion to getting bigger in steel." Says Paulos: "In my opinion, U.S. Steel has other options—investment in oil, say, or chemicals—that make more sense." Even some U.S. Steel executives appear to agree with that. Rumblings of displeasure about the National move have escaped Big Steel's offices.

THE TIMING of U.S. Steel's announcement, and particularly the company's decision to go public with the deal before its terms were completely worked out, inevitably raise the thought that it wanted to get its proposal on the table before Justice ruled on the LTV-Republic merger. Perhaps U.S. Steel thinks its case would be weakened if it came along later, as a kind of me-too item. Some analysts also advance a conspiracy theory, which postulates that U.S. Steel doesn't have much hope of gaining Justice's approval, but intends by its arrival on the scene to impede the LTV-Republic deal. It is not really clear, though, why U.S. Steel should want to do that. Both Republic and National have reputations as price-cutters, and competitors might well welcome their prompt disappearance from the market. That proposition could help explain why no major competitors have raised their voices to oppose either deal, LTV's or U.S. Steel's.

Approval from Justice, whatever its other repercussions, would assuredly tie LTV's fortunes to steel. Says Paulos: "As steel goes, so will LTV." U.S. Steel, even with National in tow, could not say as much, since steel would still account for less than 50% of corporate revenues. Some U.S. Steel executives may be deeply thankful for that fact. Still, the company has now reasserted a claim to the name Big Steel. If only it could next get back to making steel at a profit. ■

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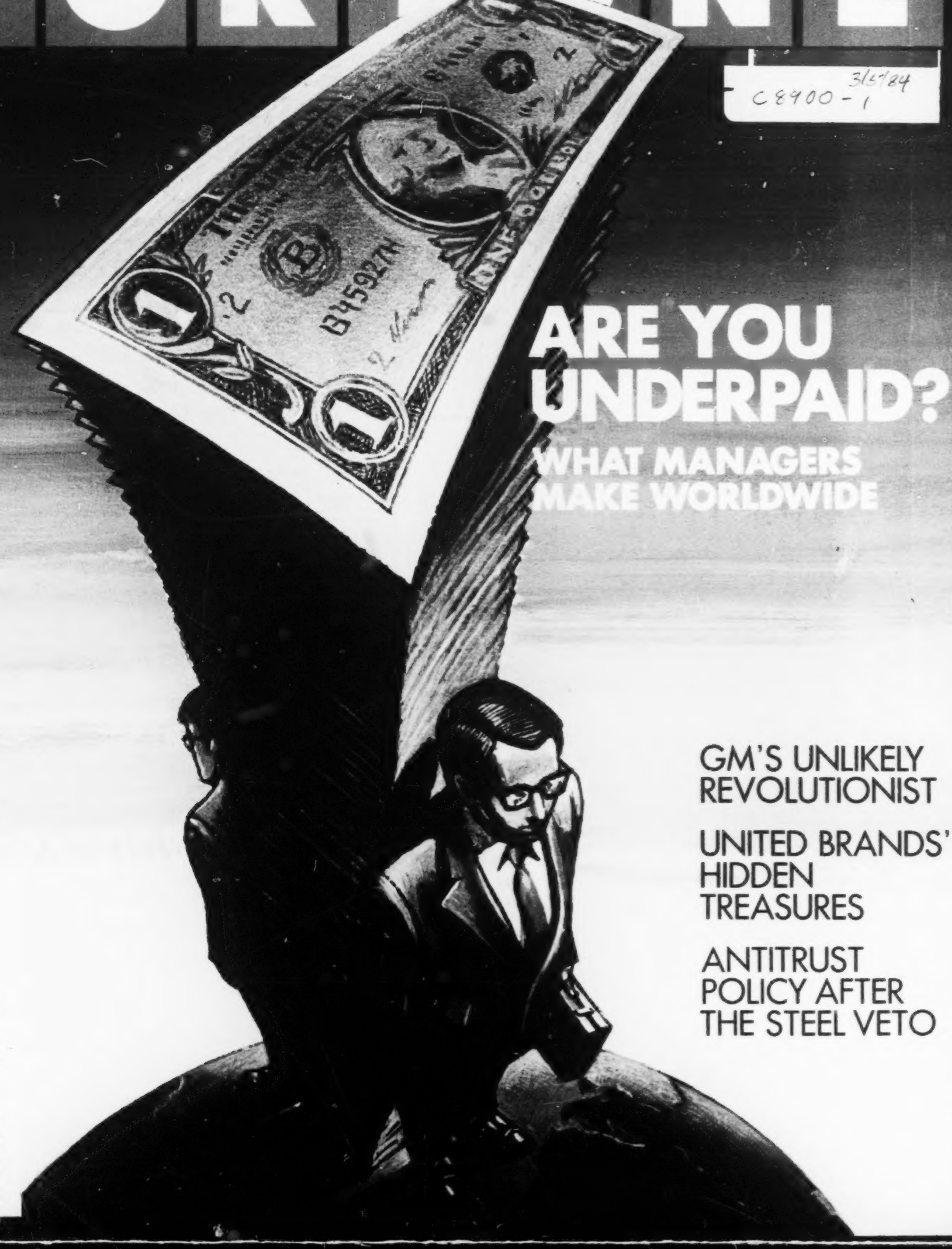

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MANAGING/COVER STORY

ARE YOU UNDERPAID?

American managers tend to get more cash than their foreign counterparts, but come up short on nifty perks such as chauffeured cars. This pattern may not last for long, though. Foreign salaries have been rising faster than those in the U.S. ■ *by Lisa Miller Mesdag*

IS THE AMERICAN EXECUTIVE underpaid? He probably thinks so: just look at that sweet deal he pulled off for the company last week, and then to find out over lunch that old Joe two offices away is taking down that much more—it's a crying scandal. Actually, he can put away his handkerchief. By world standards, managers in the U.S. are doing okay. Others may live a bit better, but Americans get paid more than anybody but the Swiss and Germans.

In cash compensation, American executives up and down the corporate ladder generally make more than their foreign counterparts. Since their compensation plans often include stock options and incentives based on performance—which have only recently begun to be offered abroad—they also have a greater opportunity to get rich. When you take into account non-cash perks, however, international comparisons become trickier.

Consider, for example, the plight of the Portuguese executive whose salary amounts to a measly $25,000 a year. He has a maid, a washerwoman, and a part-time gardener. His company furnishes him with a car and gas, a housing allowance, and an expense allowance of $450 a month—no receipts necessary. It picks up the tab for his home phone bills and even an occasional home repair bill as well. The only rub: not many executives in Portugal make as much as $25,000 a year; one who does may well be the chief executive officer of his company and is probably the scion of a wealthy family anyway.

Businessmen around the world are increasingly interested in exploring such comparisons. More and more, they find themselves doing business on a global basis—competing with a company from a foreign country, or entering into a joint venture with one. The recent strength of the dollar, too, has made the salaries of American executives seem all the more prepossessing. What's ironic is that just when managers begin to look at international differences in pay, compensation practices between countries have begun to become more alike.

Some distinctions remain clearcut. When it comes to chief executives, those in America's largest companies are far and away the highest paid in the world. It's not just that their base salaries are heftier. The big difference is those bonuses and stock options. Even Swiss and West German companies, which pay the world's highest salaries in some less exalted managerial categories (see table, next page), don't come close in paying off the C.E.O. Says Rudolf Mang, a business writer for the West German magazine *Capital*: "A German manager can only dream about an income of $2 million, which the president of Apple Computer earns." In 1982 at least 85 American chief executives earned more than $1 million. In contrast, the highest-paid foreign bosses rarely earned more than $500,000. Exceptions exist—Cesare Romiti, managing director of Fiat, for example—but are limited.

Even below the chief executive officer the U.S. has more managers pulling down big salaries than any other country. One reason: company size is a major worldwide determinant of pay. Since American companies are on average bigger than foreign ones—about half of the 50 largest industrial corporations in the world are American—U.S. executives have more opportunities to make big bucks than their foreign counterparts.

Further down the executive ladder, if you look just at pay, the American manager still tends to come out ahead. Pay differentials between executives at different levels in an American company are smaller than those in European companies. Hans Ullstein, a partner in the executive recruiting firm of Ward Howell International, points out that the chief financial officer in a big European company typically makes three times as much as the executive immediately below him. In an American company, he says, the ratio would be more on the order of 1.5 to 1. On the bottom rung as well, aspiring executives tend to fare better in the U.S. Ullstein cites the example of a Harvard MBA who joins a bank at a starting salary of $45,000. That's probably one-third of what his boss, the vice president of the consumer-lending division, is making. "In Europe," says Ullstein, "no one starts at one-third of his boss. It's always one-fifth to one-sixth."

A RECENT SURVEY by the Japan Economic Institute found that while American companies try to base an executive's salary on his ability to produce profits for the firm, most Japanese companies say that the balance between those who direct the firm and its employees is critical, and that they would not want too wide a gap in pay. Consequently, salaries of Japanese chairmen and presidents, which range from $50,000 to $250,000 depending upon company size, are well below comparable American salaries.

If a Japanese executive doesn't like his salary, he can jolly well lump it. Says Heatner Bowker, a compensation consultant at the Executive Compensation Service U.K., a subsidiary of Wyatt Co.: "A market rate for a job doesn't exist in Japan. The Western world's version of supply and demand doesn't apply." An American company in dire need of a top-notch marketing man might be willing to pay almost anything to get one; in Japan they grow their own. Says George Baird, a Hay Group partner who opened the firm's Tokyo office: "In the U.S., you're a marketing man and you can sell your skills. In Japan, you're a Mitsubishi man who happens to be in marketing. Before that you may have been in production and before that you may have been in finance."

Yet while the Japanese executive's cash remuneration is modest by American standards, he is comfortable knowing that the company will take care of him. Japanese pay

British companies *started furnishing executives with cars and sometimes chauffeurs when high tax rates made raises pointless. Taxes are lower now, but executives still expect those vehicular perks.*

PHOTOGRAPH BY JOHN BULMER

EXECUTIVE COMPENSATION FOR:

COUNTRY (1981 per capita GNP) in thousands	YEAR	MIDDLE MANAGERS TOTAL CASH COMPENSATION Before tax in thousands	After tax in thousands	UPPER MIDDLE MANAGERS TOTAL CASH COMPENSATION Before tax in thousands	After tax in thousands
U.S. ($12.5)	**1983**	**$65.0**	**$54.1**	**$112.0**	**$85.1**
	1981	$58.0	$49.1	$112.0	$88.5
	1979	$44.0	$38.5	$96.0	$74.8
Switzerland ($17.2)	**1983**	**$73.7***	**$55.2**	**$130.9***	**$91.6**
	1981	$68.1*	$51.4	$125.6*	$88.4
	1979	N.A.	N.A.	N.A.	N.A.
West Germany ($13.5)	**1983**	**$58.0**	**$41.0**	**$117.4**	**$70.9**
	1981	$56.5	$40.6	$120.5	$72.9
	1979	$62.4	$43.2	$124.2	$74.3
France ($12.1)	**1983**	**$49.0**	**$43.9**	**$89.3**	**$74.9**
	1981	$53.4	$47.9	N.A.	N.A.
	1979	$55.5	$49.3	$93.4	$77.8
Canada ($11.2)	**1983**	**$48.6**	**$36.9****	**$80.2**	**$55.7****
	1981	$46.5	$35.5**	$82.2	$56.8**
	1979	$33.5	$27.1**	$57.6	$42.5**
Brazil ($2.2)	**1983**	**$40.9**	**$27.1**	**$79.2**	**$42.7**
	1981	$33.7	$23.2	$67.7	$41.5
	1979	N.A.	N.A.	N.A.	N.A.
Italy ($6.8)	**1983**	**$40.1**	**$30.1**	**$58.6**	**$42.6**
	1981	$37.4	$28.4	$63.0	$43.6
	1979	$30.5	$23.9	$55.5	$41.4
Australia ($11.2)	**1983**	**$38.6**	**$24.9**	**$63.9**	**$34.9**
	1981	$25.3	$18.4	$43.7	$26.9
	1979	N.A.	N.A.	N.A.	N.A.
Spain ($5.8)	**1983**	**$33.9**	**$27.4**	**$51.6**	**$38.1**
	1981	$38.6	$30.5	$60.1	$42.3
	1979	$40.1	$31.4	$71.6	$47.5
U.K. ($9.0)	**1983**	**$33.2**	**$26.0**	**$58.8**	**$41.0**
	1981	$33.5	$26.0	$57.6	$40.4
	1979	$33.7	$26.5	$58.9	$41.0
Japan ($10.3)	**1983**	**$29.6***	**$25.6**	**$39.0***	**$31.8**
	1981	$29.8*	$26.0	$39.3*	$32.5
	1979	$27.1*	$24.3	$36.0*	$30.3
Mexico ($2.3)	**1983**	**$28.6***	**$15.9**	**$65.2***	**$33.7**
	1981	$61.4*	$31.0	$149.4*	$72.0
	1979	N.A.	N.A.	N.A.	N.A.

Sources: The Hay Group for compensation figures, TPFC for after-tax calculations, Population Reference Bureau for latest 1981 per capita gross national product figures. *Fortune estimate. **Includes Ontario Provincial.

What You See Isn't All of What They Get

In the worldwide salary sweepstakes, middle and upper middle managers in Switzerland and the U.S. are best off, at least in terms of take-home pay. Their good fortune is no secret. "Hold up a sign on the Champs-Elysées advertising a job opening in Geneva or New York and you'll be trampled by hordes," says Jean-Michel Beigbeder of Korn/Ferry's European operations. Cash compensation figures don't take perks into account, of course, and currency conversion skews the picture further in such countries as Japan and the United Kingdom. Since the pound, for example, has dropped from around $2 three years ago to $1.50 last year, dollar-converted salaries appear stagnant. Denominated in pounds, however—as they are paid—British salaries have been rising.

practices, which take into account a person's individual needs in addition to his age, seniority, and job position, reflect a paternalistic corporate bent. An employee with two children in college and a big mortgage, for instance, would get paid more than his childless colleague in a comparable job.

The Japanese corporation also takes care of its managers in other ways. Companies pay up to 50% of interest charges on mortgages for all employees, including managers. As an executive moves up the corporate ladder, his company provides him with a car and chauffeur, an increasingly fat expense account, and membership in exclusive golf clubs and social clubs known locally as "castles." James C. Abegglen, a vice president at the Boston Consulting Group's Tokyo office, recalls the situation of a Japanese executive he knows: "Each time he got promoted he moved to a better house. And as his expense account grew, the bars he'd visit would get better and the girls in the bars got better."

As the Japanese example suggests, you've got to think twice about salary comparisons and then quickly get beyond them. In looking just at dollars paid—or yen or pounds—you have to consider currency exchange rates and local taxes. You also have to look at what the money will buy in different countries, and at compensation other than cash.

THESE DAYS exchange rates make the salaries of American executives look better than they did just a few years ago. For example, according to data supplied by the Hay Group, five years ago U.S. middle managers ranked third or fourth—1979 figures aren't available for Switzerland—and last year second. (Hay defines a middle manager as someone on the order of a plant manager or regional sales manager, and an upper middle manager as a department head just below top management, such as a director of sales or engineering.) Mexican executives, meanwhile, got clobbered by the collapse of the peso. And yet, while the strong dollar has a big impact on salary comparisons, it may not have much effect on purchasing power—other than for imports from the U.S.—since foreign executives don't shell out dollars for the goods they buy.

Outside the U.S., and especially in countries such as Holland, Belgium, and Australia where tax rates are confiscatory, companies typically provide less cash and more perks (see box, page 25). For example, a Mexican executive earning $25,000 a year would have

PAUL CHESLEY

A bad day on the links *may be sweetened by the thought that the company pays for your membership in the club—in this case, Tokyo's exclusive Three Hundred Club. Membership is limited to 300 of the elite, many of whom occasionally like to talk a little business on the course.*

a company-supplied car and chauffeur, along with a specified amount of groceries and liquor delivered to his home twice monthly. In some countries executives take as much as 50% of their compensation packages in nontaxable perks.

"In Japan," says Kenichi Ohmae, managing director of McKinsey & Co.'s Tokyo office, "there's a tremendous disincentive to earn a lot in the form of money." Whereas the maximum tax rate in the U.S. hovers around 50%, in Japan the peak national rate is 75% for those who earn over $335,000. Taking into account municipal taxes, which will consume another 14% for anyone making $210,000 or above, the tax bite rises to 89%. The typical company president, whose taxable income is around $140,000, will pocket only $44,800 after he pays out 68% of his earnings in national and local taxes.

Companies operating in punitive tax environments work closely with lawyers and consultants to devise tax-avoiding compensation packages. For executives in northern Europe, for instance, company cars—and sometimes chauffeurs—are standard, with British companies furnishing the most BMWs, Jaguars, and Rolls-Royces. Similarly, almost all good-size companies in Mexico give cars to the top three levels of management. Says Carlos Rojas of Korn/Ferry International, the big executive search firm, "In Mexico and Brazil the matter of contention is what *kind* of car you'll give me, not if you'll give me one." A Mercury Grand Marquis is on the Mexican manager's most-wanted list.

Other perks frequently served up to executives abroad are housing and school allowances, club memberships, overseas travel allowances, financial counseling, and loans at preferential rates. In some countries, such as Argentina and Portugal, the most valuable perk an executive can get is having up to half his salary paid outside the country. Certain companies in Germany and Italy provide bodyguards and armored cars for their top executives.

German executives may retreat to company-owned hunting preserves to spend a week stalking deer and wild boar with local hunting guides. Many executives in Holland, Germany, and Australia receive a "representation allowance" that can add about 5% to 10% to their salaries. The presumption is that the executive and his family have to spend extra money on their home and wardrobes to present a public image appropriate to his employment position. The Australian executive's wife looks forward to receiving a "hospitality allowance" from the company for home entertaining—the company gives the money directly to her, not her spouse.

SOME COUNTRIES' tax authorities have become so avaricious, however, that the perk-granting strategy no longer works. In Sweden, for example, the Social Democrats have virtually put an end to non-cash incentives by taxing them as income. Indeed, taxes so equalize net take-home pay that Swedes jest that the only difference between an executive and his chauffeur is that the executive sits in the back seat.

In India the government specifies how much can be paid out both in perks and salary, even for companies not owned by the government. A chief executive can make as much as 90,000 rupees—about $8,900—in annual salary, and is entitled to perks not to exceed a value of $4,500 a year. That amount goes a long way, though: it provides for a

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RESEARCH ASSOCIATE *Alison Bruce Rea*

rent-free house, a chauffeur-driven car, two full-time domestic servants, a round-the-clock house guard, and membership in various clubs. The Indian government does not allow stock options. "All this," says one Indian executive, "enables me to live comfortably while I work. It does not let me make any substantial savings."

ONE CONCLUSION from the evidence worldwide is that Americans seem to care more about cash, while executives elsewhere focus more on how they live, or are seen to live. In the opinion of David Harrop, author of a book entitled *World Paychecks*, Americans still exhibit a "fascination with monetary proof of success." Other experts attribute this concern to the greater pressures and job insecurity that managers in the U.S. supposedly suffer: meet your quarterly sales targets; keep the stock price buoyant; sorry, we're selling off your division. American managers change jobs more frequently, and are more likely to be fired—they may want the money in part to tide them over the bad times that might begin any day.

Europeans, by comparison, seem to take a more even view, foreseeing neither the washed-out bridges nor the giddy heights that haunt their American counterparts, but wanting to be sure that they make the trip in first-class. "A senior executive in Europe expects to be well looked after—not to become a millionaire," says Ian Sym-Smith, a partner at the Hay Group. Intangibles such as prestige—in the form of company-sponsored membership in exclusive clubs, the opportunity to take one's wife along on business trips, or even having a secretary for one's secretary—are important values to the European. Unlike the American executive who is content grabbing three to four days of vacation here and there, European and Latin American executives relish their four- to six-week holidays. Vacations are considered so essential in Austria, Belgium, Italy, Argentina, and Mexico that vacation bonuses—also known as 13th and 14th month bonuses—are mandatory either by law or by popular consensus.

Worldwide trends in compensation may be chipping away at these differences, though. The evidence suggests that compensation practices from country to country are becoming more, rather than less, similar. This is true for both levels of pay and forms of compensation. For one thing, the rate of pay has been rising faster in Europe than in the U.S. Says consultant Christopher Tilly, a Ward Howell International partner in London: "The ratio has changed dramatically in the last ten to 15 years, from one where we knew definitely that the American executive was higher paid, to a much narrower gap."

While cultural influences will probably keep Japanese salaries relatively modest for a long time, there has been a slight narrowing of the gap even there. Says Yoshihiro Mizuno, manager of international consulting at the Cambridge Corp. in Tokyo: "When seen over the long term as a trend, the compensation of Japanese executives is rising faster than that of the American businessman."

American-style performance-based compensation packages are gaining popularity. While U.S. companies have made aggressive use of incentives tied to performance for the last 20 years, Europeans have been opposed to the notion that a dangling financial carrot can induce someone to do the job better. Says consultant Tilly: "It used to be considered bad form to give performance-based bonuses to upper management. Acceptance involves a considerable cultural change in attitude. There was a funny idea of money in England. No one admitted that it mattered." David Orr, a management consultant at Employment Conditions Abroad Ltd. in London, cites the ferocious reaction of top executives at a big British firm when the company informed them that it wanted to implement an incentive plan. Snapped one executive: "This implies that you think I am not doing the best I can. I am insulted."

> Says one British consultant, "It used to be considered bad form to give performance-based bonuses to upper management. There was a funny idea of money in England. No one admitted that it mattered."

Despite the resistance, however, target-oriented bonus schemes are popping up in compensation plans in the U.K., Germany, Switzerland, and France. Martin C. Lutyens, director of the Wyatt Co. U.K., suggests that the recent recession was a catalyst. Anxious to keep salary increases to a minimum, companies opted for what he calls a you-can-have-it-if-you-make-it policy. And for British executives, the bonus concept has become more palatable since the Thatcher government lowered the top tax rate from 83% to 60%. Says Lutyens: "The notion that more money doesn't affect performance is easiest to accept in a country where the extra money is going to go to taxes anyway."

In a survey of 40 or so of the largest British companies, the U.S. management consulting firm of Towers Perrin Forster & Crosby found that 27% now have performance-related schemes, up from 6% in 1978. This year the number is expected to rise still further. But in Britain, as in other European countries, the maximum potential bonus is much smaller than it is in the U.S.: up to 50% of an executive's salary, vs. 400% in the U.S. A few British companies are also experimenting with stock options, but these incentives remain virtually unheard of in the rest of the world.

Some experts see the European influence at work in the U.S. in the flexible benefit plans adopted by certain companies. Rather than prescribe a fixed amount of benefits and perks, more American companies are allowing their executives to decide for themselves how they want the top end of their compensation packages delivered. Company-supplied cars are also becoming more common in the U.S.

FOLLOWING the Japanese lead, many American companies are extending bonuses based on company performance deeper into the employee ranks. Says Robert Coscarello, a partner at Towers Perrin Forster & Crosby: "The old American philosophy that only top management should share in the goodies doesn't work anymore. The Japanese way is better."

Global competition seems to be gradually overpowering compensation differences that spring from cultural preferences. As managers travel they learn what others are up to and try to adopt the same practices at home. Newly minted MBAs from America's top business schools return to their native lands with tough compensation demands. Corporations with operations in many countries view compensation as a global, rather than local, issue, and set high standards that gradually become the norm. Pay practices in one country so influence those in another these days that a sort of international consensus on executive pay may gradually be emerging. "In essence," says Robert Coscarello, "the rest of the world is becoming more like America." All that remains is for the Japanese to start offering bonuses based on individual performance. If that happens, watch out. ■

HOW MANAGERS IN FIVE COUNTRIES LIVE

■ Managers are, almost by definition, achievers, and it's rare to find one who doesn't think he's underpaid. The executives from five countries profiled below are no exception—most say salaries in their neck of the world are too low:

▶ **Peter Laister**, 55, managing director of Britain's Thorn EMI since 1979, became chief executive of the diversified electronics company in October. As managing director his salary was £88,000, or about $134,000; he'll get a substantial raise when he assumes the chairmanship in March. Performance-related bonuses, which Thorn began experimenting with a few years ago, have been modest, adding less than 20% to his salary. Laister likes the bonus concept, but admits others are skeptical. "Americans grow up believing that reward is related to effort," he says. "Europeans don't."

Peter Laister

Laister lives with his wife in a seven-bedroom brick house in a village 23 miles from London. His company furnishes him with the car of his choice—he now has a blue Rover Vitesse—and a chauffeur. What free time he has he spends gardening and taking photographs, and at least once a month he takes his 33-foot boat into the English Channel to fish. He has five weeks of vacation and usually spends a "quiet, homey" two weeks with his wife and friends in a warm climate, such as Majorca, Spain, or St. Lucia in the Caribbean.

▶ **Mitsuo Komori**, 42, is a short, lithe executive with black collar-length hair at Toyo Kogyo, the Japanese auto firm that makes the Mazda. As head of a 12-man section in charge of the company's domestic advertising, he has the rank of *kacho*, or section chief, reporting to a *bucho*, or department chief. The two men have desks alongside each other in an open office.

Komori says his total cash compensation is 8.5 million yen a year, or $35,780, low by American standards. He notes that it wouldn't make much difference whether he was good at his job or not, since Japanese firms don't pay according to results. "Executives are not paid that much more than line workers," he says a bit ruefully.

Komori lives with his wife and two children in suburban Saitama and commutes 75 minutes to his Tokyo office by bus and subway. Their house, which they bought a few years ago for $85,000, has three rooms downstairs and two rooms upstairs. Komori could have obtained a 4% to 5% housing loan from the company—available to all employees—but opted instead for an 8% bank loan rather than deal with company personnel at headquarters 500 miles away. "The whole business of arranging it is just too much sweat," he says.

Komori entertains lavishly in Tokyo's Ginza district several times a week at peak entertainment seasons. His company picks up colossal tabs—sometimes to the tune of $2,000—for such evenings. On weekends he plays tennis with his wife at a neighborhood court.

▶ **Ove Sundberg**, 50, has been president of KemaNobel, Sweden's largest chemical company, for 11 years. Last year his salary was about one million kronor, or $130,000. He drives a company-furnished Volvo 760; his wife, who owns a fashion boutique, drives a Honda. They live in an eight-room apartment in the exclusive Ostermalm section of Stockholm. In addition to their main residence, the Sundbergs own a summer cottage in an old fishing village, overlooking the waters of the Kattegat, which separates Sweden from Denmark. Sundberg prefers swimming in the sea to pools—"We formerly had a home with an inside pool but hardly ever used it," he says—and is an avid golfer. He is entitled by law to five weeks of vacation but usually takes only three to four. He generally spends at least one week skiing in Austria with his wife.

He won't say how much tax he pays, but suggests that an investment in a building project helps reduce the bite. "We love living in Sweden," he says. "Taxes are a nuisance, but we live a decent life. You can only eat one steak a day anyway."

▶ **Bodo Liebe**, 63, has been managing director of Klöckner-Humboldt-Deutz, one of West Germany's largest machinery companies, since 1975. He and his wife live in a spacious villa on a hilltop in Kettwig—between Düsseldorf and Essen—with a lovely view of forests, fields, and meadows. Their garden is the size of a small park. They share a passion for golf and collect Dutch paintings of the Romantic period.

WOLF P. PRANGE

Bodo Liebe

Like most Germans, Liebe will not talk about his income, but the German press estimates it at about 600,000 deutsche marks, or $235,000, not including bonus. With earnings from board seats, he probably makes around $370,000 in all.

Liebe has a company-furnished silver-gray Mercedes 500 SEL and a chauffeur. He entertains personal and business friends aboard a company-owned motor yacht on the Mediterranean, in the company's impressive guesthouse on the Rhine, and on golf courses in Scotland. The Liebes have a maid but do not need a butler since they prefer to take their guests to restaurants or have catered parties.

▶ **Robert van Duursen**, 53, is a deputy director at Heineken, the Dutch brewing company. His salary, including a fixed bonus and holiday allowance, is 180,000 guilders, or $63,000. "That puts me in the top 2.5% in Holland," he says.

Van Duursen and his wife live in a big brick house in the town of Bussum, 13 miles outside Amsterdam. In the U.S. their house would cost $300,000, he estimates. He has a five-week vacation and spends two weeks skiing in the winter and three weeks in a château in the south of France in the summer. "We do manual work to get away from the sherry and dry martini drinking," he says.

Van Duursen objects to Holland's social welfare system, saying that it consumes over 60% of the nation's income and is destroying the work ethic. Marginal taxes are as high as 70%. Despite such disadvantages, van Duursen thinks that Holland is a good country for kids to grow up in. Says he: "We're all grumbling, but no one's leaving."

Van Duursen's only perks are a car—currently a Ford Granada—and four cases of Heineken beer a month.

APRIL 16, 1984

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FORTUNE

WHY WOMEN AREN'T GETTING TO THE TOP

AMERICA'S JUNIOR TYCOONS

HART AND MONDALE ON THE ECONOMIC ISSUES

BALLY'S GAMBLE ON THE FITNESS CRAZE

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APRIL 16, 1984 VOL. 109, NO. 8

Women have moved into the executive ranks as never before, but as Neil Selkirk's cover photograph suggests, they still aren't making it to the top at large corporations. The reasons are examined on page 40.

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LETTERS TO FORTUNE

Antitrust Policy

"Antitrust Policy After the Steel Veto" (March 19) struck me as a generally excellent treatment of the subject, although obviously I would not want to ratify all of its particular conclusions. One aspect of writer Ann Reilly's treatment of the resale price maintenance issue, however, needs clarification.

Since 1977 the Supreme Court has said that nonprice vertical restraints, such as manufacturer-imposed exclusive territories, are to be judged case by case to determine whether or not they violate the antitrust laws. This "rule of reason" analysis thus contrasts with the unlawful per se approach applied to practices such as horizontal price fixing that are always anticompetitive.

Contrary to your photo caption ("Justice has urged the Supreme Court to let manufacturers set minimum retail prices . . ."), the department argued only (and I concur) that retail price maintenance should also be judged by the rule of reason. This is desirable because in certain circumstances retail price maintenance is procompetitive on balance, for reasons cited by Ms. Reilly.

JAMES C. MILLER III
Chairman
Federal Trade Commission
Washington

You correctly state that resale price maintenance policies inevitably lead to consequences for consumers, retailers, and discounters that are much larger than most people realize. In effect, these are social decisions that can seriously hinder innovation in American industry and have major impact on small stores.

Large retailers, such as catalogue showrooms and mass marketers, rarely introduce a new product. In our company's experience, department stores will buy a new kind of product only after it has "proven itself." It is the small specialty stores, whose owners have a passionate interest in the industries they serve, that support innovation most. Current government policy on resale price maintenance is putting large numbers of these stores out of business, because they cannot exist on margins adequate for larger retailers. Consequently, I expect to see fewer American companies invest in innovative product development.

CARL G. SONTHEIMER
President, Cuisinarts Inc.
Greenwich, Connecticut

Cutting the Deficit

Jennifer Roback's "A Modest Proposal for the Deficit" (A Difference of Opinion, March 19) is elegantly simple in its Solomonic logic. Many dieters find the substitution of a 9-inch pie for the traditional 10-inch pie is easy, effective, and far more satisfying than no dessert at all. Likewise, with Roback's budgetary diet for Capitol Hill: we can have our diet and our dessert.

DAVID B. CROCKETT
Roseville, Minnesota

Ergonomics

Ergonomists must include in their bag of tools the design of meaningful work ("Easing Tensions Between Man and Machine," March 19). Eyestrain, aches and pains, excessive fatigue, and stress will always be present if the job is a lousy job. If the job is interesting, exciting, and challenging and offers an opportunity for continued growth, those external factors become less important. Making the external factors humanly tolerable will not produce motivated workers if they hate their work. They'll be comfortable but they'll still hate their work.

HANK MORGAN

"Making the external factors humanly tolerable will not produce motivated workers if they hate their work."

ROY W. WALTERS
Mahwah, New Jersey

When workers at video display terminals (VDTs) look from "hard copy" (paper) to the keyboard to the screen, it requires that their eyes refocus or accommodate to changes many, many thousands of times a day. Sitting stock still in one position too long will exacerbate the pain. Although ergonomics may help to alleviate some of these problems, there are simpler, more cost-effective alternatives already in use that deal specifically with the visual and musculoskeletal problems. For example, Bank Leumi Trust Co. of New York recently initiated a stress management exercise program for its VDT workers. The exercises can be done without supervision and do not require the high cost of installing new equipment or refurbishing existing facilities.

ROBERT L. GEDALIAH
New York City

Gamma Rays

Re "The Effect of Gamma Rays on the Stock Market" (March 19): Before adding up all of the supposed benefits of irradiation, writer Tom Alexander should consider more carefully how this technology will affect the food we eat. A little logic would indicate that the same irradiation necessary to kill bugs will kill essential food nutrients as well.

Of what importance is the impact of irradiation technology on the stock market when the food to be irradiated may not be worth eating anymore?

BARRY ZAUSS
Los Angeles

Worldwide Compensation

Re "Are You Underpaid?" (March 19): Nowhere in your comparative salary statistics did you make reference to purchasing power. Living and working in Switzerland, with current knowledge of U.S. living costs from several visits there each year, I can assure you that if your statistics covered purchasing power, the U.S. manager making $54,000 after tax would have a smile on his face like the tiger compared with his Swiss counterpart on the same salary.

BRIAN RUFFLE
Châtel-sur-Monsalvens
Switzerland

Good figures on purchasing power are even harder to obtain than salary figures. Undebatable, though, was an error in the table that accompanied the article. The median total after-tax compensation for an upper-middle manager in the U.S. in 1981 was given as $88,500. The correct figure is $83,400.

Oil Reserves

News/Trends (March 19) stated that what was attracting Arco to Gulf was Gulf's 725 billion barrels of proved and probable oil reserves in the lower 48. The total proved reserves of the U.S. (including nine billion in Alaska) are only around 29 billion barrels. The entire proved reserves of the Middle East are in the neighborhood of 370 billion, and the total proved reserves in the whole world are estimated at 670 billion barrels. You meant 725 million barrels.

TRENT B. LATSHAW
President, Latshaw Drilling Co.
Houston, Texas

Semiconductor Companies

In "The Coming Glut of Semiconductors" (March 19) you make an extremely important point: "Hooking up with one or more of these big brothers assures bigger supplies of both essentials [liquidity and investment capital], affording some armor against the heavy blows of the coming semiconductor recession." This statement is so simple and so correct, especially when you look at the cash-flow requirements of the individual corporations in this industry. For semiconductor companies that are in any sense successful, cash flows have been negative for every single year since the inception of the company.

Why? The answer is fairly simple. Our industry

Address letters to FORTUNE, Time & Life Building, Rockefeller Center, New York, N.Y. 10020.

MONEY & MARKETS

THE TRUE FACE OF BANK EARNINGS

What with regulators pressing U.S. banks to set up reserves against loan losses in Third World countries—and fresh signs that those countries won't be able to service their colossal debt at the stated terms—profits could shrink a lot this year.

■ *by Gary Hector*

MAJOR U.S. BANKS have maintained a financial illusion of astonishing proportions ever since the international debt crisis erupted in mid-1982. While scrambling to keep troubled debtor countries from falling hopelessly behind in interest payments, they have stretched prudent banking and accounting principles in a successful effort to keep worries about troubled loans from sullying their income statements. Now a whole series of developments could take the pretense out of bank profits.

Bank regulators—the Federal Reserve Board and the Comptroller of the Currency—are muscling the biggest U.S. banks to add generously to reserves against possible loan losses. Any provision for losses would have to be extracted from earnings. The Securities and Exchange Commission wants banks to tell shareholders more about the potential impact of those troubled foreign loans on profits. "Last year the banking community crossed an important philosophical threshold," says a senior bank regulator. "They moved from a philosophy that countries don't go broke to a philosophy that loans to countries may be bad. This is the year that banks will make substantial provisions for their international loan portfolios."

Ominous events in the less developed countries that owe the money could dent earnings in another way. With Argentina in the vanguard, rebellious LDCs in Latin America and elsewhere are pressing for a long-term solution that would ease their crushing debt-service burden, presumably through lowered interest rates and stretched-out repayment schedules. Argentina's new government, headed by President Raúl Alfonsín, stopped paying interest in mid-October while it studied its international debt problems, and isn't likely to resume payments until the second quarter. The mere interruption in payments could erase as much as $90 million in first-quarter profits at U.S. money center and regional banks with the largest exposure in Argentina.

If some regional U.S. banks and European lenders get their way, profits might shrink for another reason. These banks swear they won't go along on any more new loans—especially for Brazil—unless they can see some chance that the LDCs will be able to repay their debt in the future. To improve these countries' chances, they'd chop the interest on LDC debt in half, even if it meant writeoffs against earnings. These lenders' own earnings wouldn't suffer greatly since their loan exposure in the Third World is light. But the step could easily wipe out a full year's profits for some money center banks.

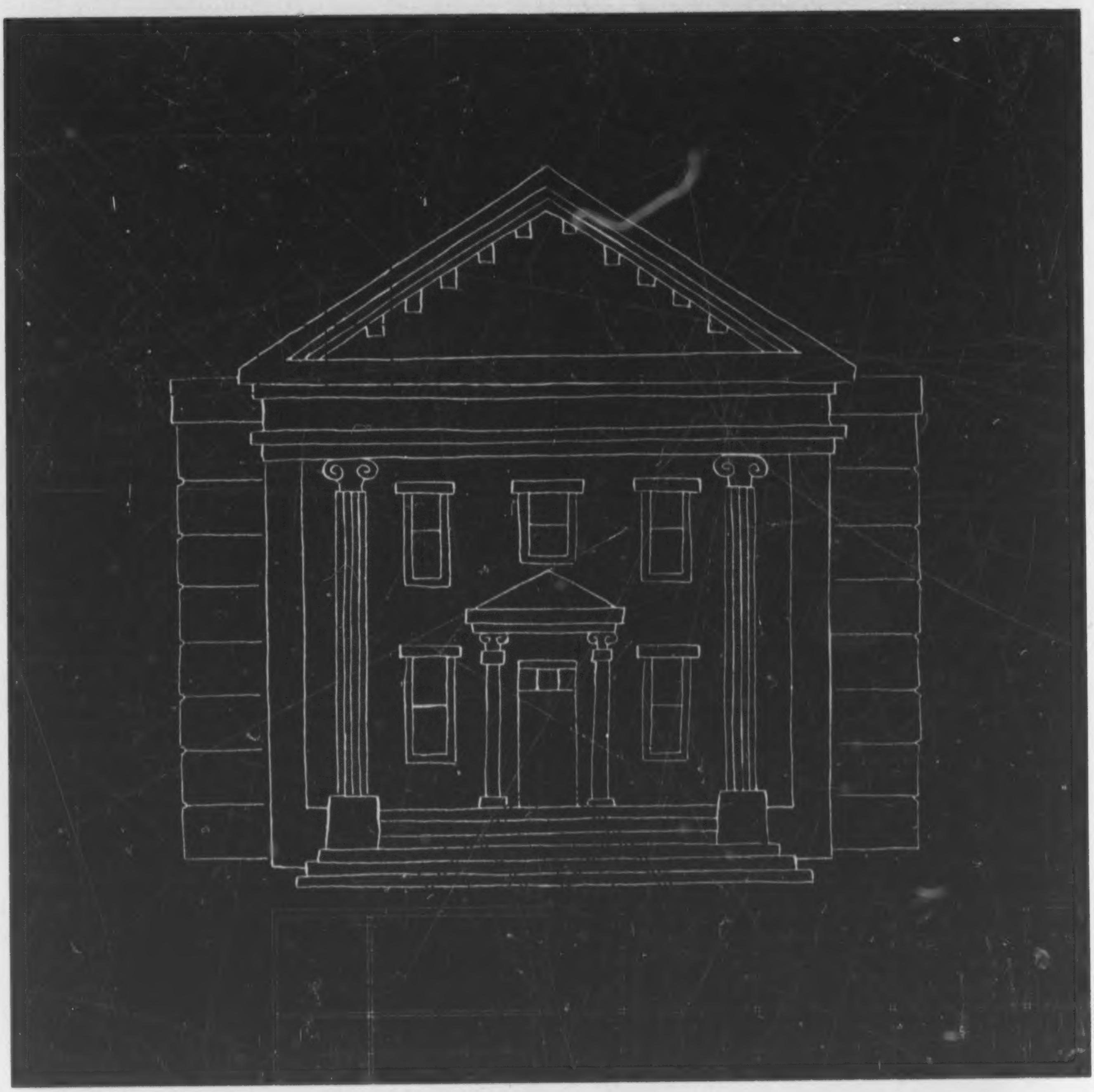
As if this wasn't enough, a vocal minority of bankers and analysts continues to warn about the fragility of the entire mountain of loans to Latin American countries. One lender at a major New York bank says that an increase in U.S. interest rates of just 1.5 percentage points—to a prime rate of 13%—would "blow everything out of the water." The recent 0.5 percentage point rise will boost debt service costs $350 million this year in Brazil alone. A slowdown in exports from large LDCs, brought on by protectionism or a new worldwide recession, could also provoke a crisis.

If Latin American loans were modest and bank profits robust, the big lenders could gradually work their way out of this perilous situation. But their Latin American exposure is embarrassingly large, and a disquietingly large percentage of the banks' earnings is in the form of IOUs, not cash. Banks have been lending troubled debtor nations enough cash to make interest payments—which then flow right into bank income statements. Bankers acknowledge that these loans are not of the highest quality. They are commonly referred to as "involuntary" loans, since they would never have been made without the country agreeing to an economic recovery program worked out by the International Monetary Fund. The risk the banks are taking is that these new loans may never be collectible and will simply swell the debt burden of the LDCs, making it impossible for them to work their way out of the current crisis.

SOME INVESTORS find it mystifying that regulators and bank accountants can allow IOUs from cash-strapped borrowers to be recorded as income, especially when the IOUs represent such a large percentage of pretax profits. Citibank is committed to lend $443 million to Brazil under a $6.5-billion loan agreement signed in February. That total, which will be returned to the bank as interest, is the equivalent of more than 25% of parent Citicorp's pretax profit for 1983. Chase Manhattan Bank, one of the few major banks to break out involuntary loans to several troubled countries in its latest annual report, committed itself to nearly $350 million of such loans to Brazil, Mexico, and Argentina in 1983, a figure that represents about 50% of pretax profits.

Regulators are worried about the adequacy of the equity capital that supports these towering loans. After much prodding from the Fed and the Comptroller of the Currency, the ten largest U.S. banks did increase their equity by an average of 16% last year, by selling preferred stock and by adding to retained earnings. An alternative—selling common shares—didn't look attractive. With

RESEARCH ASSOCIATE *Rachael Grossman*



MICHAEL BARTALOS

money center banks' common stock depressed because of troubled loans, that would have been an expensive way to raise money. The price-earnings ratios of these banks' common stocks normally run at 70% to 90% of the average P/E in Standard & Poor's 500-stock index, but currently they're at about 45% to 55% of the S&P figure—close to a historical low.

Despite the increase in equity, the money center banks remain severely undercapitalized in relation to their LDC exposures. In one simple test of capital adequacy, regulators look at a bank's primary capital—a combination of equity, debt securities convertible into common stock, and reserves for loan losses.

Some banks are far worse off in this respect than others. Loans to the four largest troubled borrowers—Argentina, Brazil, Mexico, and Venezuela—represent nearly three-fourths of the LDC debt involved in restructuring negotiations last year. Among the nation's five top bank holding companies, J.P. Morgan & Co. comes closest to adequate coverage of these loans. By setting aside about 18% of its pretax profits in 1983, it could raise its primary capital to a level equal to its exposure in those four countries. For its size, Manufacturers Hanover Corp. has the largest exposure. To reach the same objective, it would need to set aside more than five times 1983's pretax profits. Citicorp and Chase would each have to put aside more than twice last year's pretax profits.

A less drastic though still painful step would be for top banks to establish loan loss reserves against the shakiest LDC loans. Some banks outside the U.S. money centers

	BANK HOLDING COMPANY	PROJECTED 1984 EARNINGS PER SHARE	REDUCTION PER SHARE IF...	
			... BANK SET UP 1% RESERVE FOR TROUBLED FOREIGN LOANS	... INTEREST RATES ON THESE LOANS FELL 2%
1	**Citicorp**	$7.25	($.38)	($.76)
2	**BankAmerica Corp.**	$2.75	($.24)	($.48)
3	**Chase Manhattan Corp.**	$12.00	($.89)	($1.78)
4	**Manufacturers Hanover Corp.**	$8.65	($.91)	($1.82)
5	**J.P. Morgan & Co.**	$11.85	($.52)	($1.04)
6	**Chemical New York Corp.**	$10.00	($.65)	($1.30)
7	**First Interstate Bancorp.**	$6.40	($.17)	($.34)
8	**Continental Illinois Corp.**	$3.00	($.25)	($.50)
9	**Security Pacific Corp.**	$8.05	($.18)	($.36)
10	**Bankers Trust N.Y. Corp.**	$9.40	($.40)	($.80)

How Profits Might Get Pruned

Just four countries—Argentina, Brazil, Mexico, and Venezuela—account for most of the shaky loans to Third World countries by the biggest U.S. banks. If regulators pushed the banks to set aside a reserve against losses equal to 1% of the face value of the loans to those four countries, the bank holding companies' 1984 earnings per share would fall 6% on average. A 10% reserve would slash average earnings by 60%. If the four countries could force a two percentage point drop in the interest rate on their loans, the holding companies' average earnings would decline 12%. The figures were calculated from data supplied by the brokerage firm of Keefe Bruyette & Woods.

have already taken a charge against earnings to do just that. Wachovia Corp., a North Carolina bank with relatively strong earnings and few loans in Latin America, established an 11.5% reserve against its loans to Brazil and a 15% reserve against Mexican credits last year. European and Japanese banks have also moved quickly to establish reserves. The toughest standards appear to be those applied at the Swiss banks, which also have relatively small exposures in Latin America. They have set up reserves of about 20% against troubled LDC debts, although reserves against specific countries reportedly run far higher. Large U.S. banks pooh-pooh arguments that these banks are setting an exemplary trend. Snipes a senior international lender at a West Coast bank, "The courage with which people establish loan loss reserves is inversely proportional to the size of their loans."

For the big U.S. banks with their outsize LDC loans, raising reserves comes dear. Morgan made the first move, increasing its bank's loan loss reserve from just over 1% of all its loans—a bit above average for the U.S. banking industry—to 1.4%. James McDermott, director of research at Keefe Bruyette & Woods Inc., a securities firm that specializes in analyzing banks, estimates that the additions to reserves cost Morgan a hefty $1.60 a share, reducing reported profits to $10.52 in 1983. "I think the Morgan Bank has passed along a message to the investment community that it received from the regulators," McDermott adds. If McDermott is correct, the other money center banks have presumably been getting the same message, but they are behind J.P. Morgan in boosting overall reserves.

Profits at the ten largest U.S. banking companies could rise as much as 12% in 1984. Establishing a 1% reserve against loans to the four largest troubled debtors would cut that figure in half. Manufacturers Hanover Corp. would be hit hardest. According to FORTUNE's calculations, based on estimates by McDermott, a 1% reserve would knock 52 cents off that bank's projected earnings of $8.65 per share this year (see table). Setting aside a far more comfortable 10% reserve for the four countries would reduce profits at the ten largest banks by an average of 60%. Manufacturers Hanover would wind up slightly in the red.

It appears unlikely at this point that Washington will establish specific targets for reserves against loans to any of the largest LDC debtors. "We have no magic numbers," says a senior federal bank regulator. Thomas F. Donovan, senior executive vice president of Marine Midland Bank, worries about what might happen if the regulators place "an unrealistic level of reserves against a country." Banks would be unwilling to provide more financing, he says, and without financing for the country's trade, economic growth could atrophy: "The regulators can kill the patient while they administer the cure."

The central problem is that for the foreseeable future, debt service, if actually paid in hard cash, would eat up almost all of the trade surpluses generated by LDCs. Nothing would be left to finance the economic growth needed to avoid serious social unrest. Even the economic retrenchments demanded by the IMF have hurt. "We've probably wiped out about ten years of improvement in the standard of living in those countries," says Lewis Coleman, executive vice president of Wells Fargo Bank in San Francisco.

To ease the pressure, many lenders would like to reduce interest payments from the LDCs—if they could figure out a way to do that without taking a big hit against bank earnings. They long for a windfall in the form of a sudden sharp drop in short-term U.S. interest rates, which would reduce both their cost of funds and the rates they charge. Regional banks and a number of economists, unwilling to wait for that miraculous event, would go ahead and slash the interest rate charged major debtors to about 6%, or about half the current rate. The drop in interest income from that proposal would hit money center banks especially hard, reducing their profits by an average of 35%.

UNDER A LESS DRACONIAN approach also being proposed, banks would cut the interest rate on LDC loans by about two percentage points to the London Interbank Offered Rate—roughly what banks pay on deposits in the Euromarket. While this step would only partly alleviate the LDC's debt service problem, it wouldn't nick bank profits as badly. For the ten largest U.S. banking companies, projected 1984 earnings per share would fall about 12%.

Any such sacrificial cut in interest rates, however, could have a painful sequel. Bankers and accountants have been stretching the limits of generally accepted accounting practices in order to keep LDC debt off the lists of nonperforming loans. A substantial modification of the terms of existing loans could force the SEC or bank accountants into action. They might force the banks to write down their loans to reflect part of the inter-

DIEGO GOLDBERG—SYGMA

By refusing to pay interest *since mid-October, Argentina's new president, Raúl Alfonsín, is inflicting immediate pain on major U.S. banks. Their first-quarter profits could be reduced by as much as $90 million.*

ENRIQUE SHORE—WOODFIN CAMP

Domestic discontent, *as in a tannery workers' demonstration, is toughening Argentina's stance in its negotiations with the banks. Radical factions want the country to reject austerity measures proposed by the International Monetary Fund and to extract concessions from bankers. While it's unlikely the country will repudiate its debt, pressures like these are making bank regulators increasingly uneasy about the banks' reported earnings.*

est that they've agreed not to collect.

Worried that Argentina or some other debtor might force their hand this year, bankers have been scrambling for innovative financing techniques that would avoid massive write-downs. The proposal most often put forth would permit banks to receive a portion of the interest payments from major LDCs in the form of 20-year notes.

Before banks participate in any long-term loan restructurings, however, they will want assurances that their accountants won't force write-downs. They're looking to the Federal Reserve for support, and the matter may have to be resolved speedily. Over the next few months, bankers will simultaneously be handling restructurings or new financings for Argentina, Brazil, the Philippines, and Venezuela. Mexico also hopes to open talks this spring about a long-term restructuring.

Banks would like to reward Mexico for its herculean belt-tightening effort. By cutting its imports 40% last year, the country was able to generate a $13.6-billion trade surplus, surprising even the most optimistic lenders. But other countries appear less deserving. Over the past several months, Argentina and Venezuela have been testing their negotiating muscle, attempting to extract concessions from international bankers without even acting out the charade of complying with austerity programs proposed by the IMF.

Argentina will be the major test case. Unless a miracle occurs, bankers say, lenders will be carrying a substantial portion of Argentinian loans on nonperforming status by the end of the first quarter. That will cut bank earnings by the amount of the unpaid interest. The country's new government has vowed to spend six months scrutinizing its debt situation. If Argentina presses for major concessions, the bankers may be wrestling with a restructuring until late this year.

Most bankers don't expect Argentina to repudiate its debts or demand a full-scale moratorium. The country has the resources to pay its interest. What worries the banks is that toughness by Argentina could disrupt the entire restructuring process. Though bank regulators' rules on classifying international loans wouldn't require it, U.S. banks might find it prudent to establish reserves against the loans if Argentina's interest payments fall more than six months in arrears. To avoid this drastic move, bankers might be willing to give ground on interest rates and other terms. That would quickly invite demands from other borrowers for similar preferential treatment.

The negotiations with Brazil could prove even stickier than those with Argentina. Brazil hopes to raise perhaps $4 billion of new money in 1984 to tide it over in 1985. But it's having immense trouble meeting the economic targets set for it by the IMF and is going through a severe recession. A decision by more European and U.S. banks to establish large reserves against Brazil's loans would make it far more difficult for that country to raise debt-service cash abroad.

BANKERS ANTICIPATE that the unpaid interest on Brazilian loans could soar by year-end, deepening the schism between large and small lenders. Brazil will be pressing hard for a long-term debt restructuring, which it desperately needs to get its economy back on track. Regional banks might be willing to go along just to get the problem behind them. The big banks may feel they can't afford to.

Bankers are girding for a prolonged siege ending sometime in 1985, after a newly elected administration takes power in Brazil. They predict that this round may make the long Brazilian donnybrook last year look like a church social. Depending on the outcome, substantial chunks of Brazil's debt—and possibly that of other Latin American countries—could wind up in the nonperforming category. That would force banks to strip away the façade from their profits if the regulators haven't induced them to do it in the meantime. ◼

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The Economy

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For the cover, Nicholas Fasciano crafted a brass relief in the style of an engineer's ruler to symbolize the precision of the FORTUNE *500 rankings. Roberto Brosan made the photograph. A special report on the 500 begins on page 223.*

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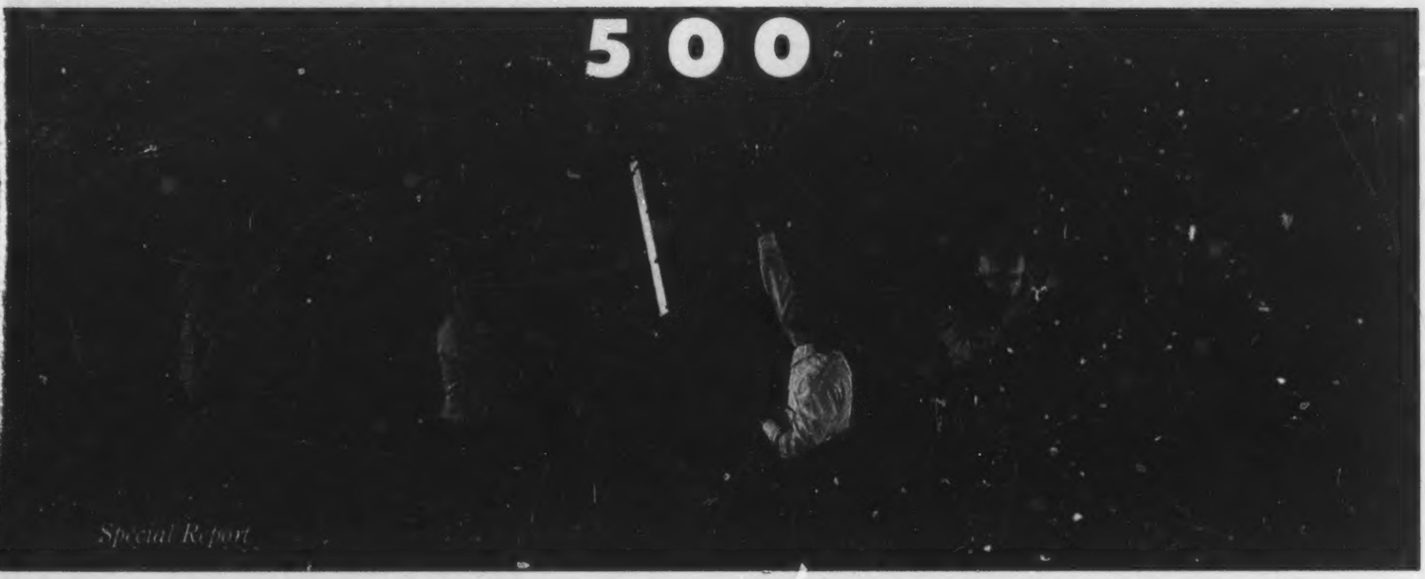

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THE MILITARY BOOST TO INDUSTRY

As industrial policy, defense spending is inefficient. But it will still provide timely financial and technical help to companies struggling to become more competitive. ■ *by Bruce Steinberg*

Unmanned, *Lockheed's Aquila battle drone can*

PHOTOGRAPH BY ARTHUR MEYERSON

THE LONGEST military buildup in U.S. history is in its eighth year, and it is generating awesome numbers. The Reagan Administration proposes to spend $930 billion on defense over the next three years, up from $635 billion in the preceding three. Even a Democratic budget, with an inflation-adjusted growth rate of 3½%, would amount to $870 billion over the period. And Congress's General Accounting Office thinks the Reagan budget numbers are an understatement. If history is any guide, it says, the Pentagon programs could cost $90 billion to $170 billion more than they're budgeted for during the three-year period.

Defense spending softened the impact of both the 1980 and 1982 recessions, providing 21% of the growth in GNP between late 1979 and the end of 1983. But it won't contribute much to overheating during the expansion. Though the scale of the buildup is unparalleled outside of wartime, it will strain capacity only in a few industries. No mobilization surge will overwhelm production across the board.

Nonetheless the spending is bringing important changes to U.S. industry. As MIT economist Lester C. Thurow observes, "The Department of Defense conducts an industrial policy, though it is a very narrowly focused one." Over the years, it has helped strengthen the industries that are the U.S.'s most potent international competitors, including aerospace, computers, scientific instruments, and communications equipment.

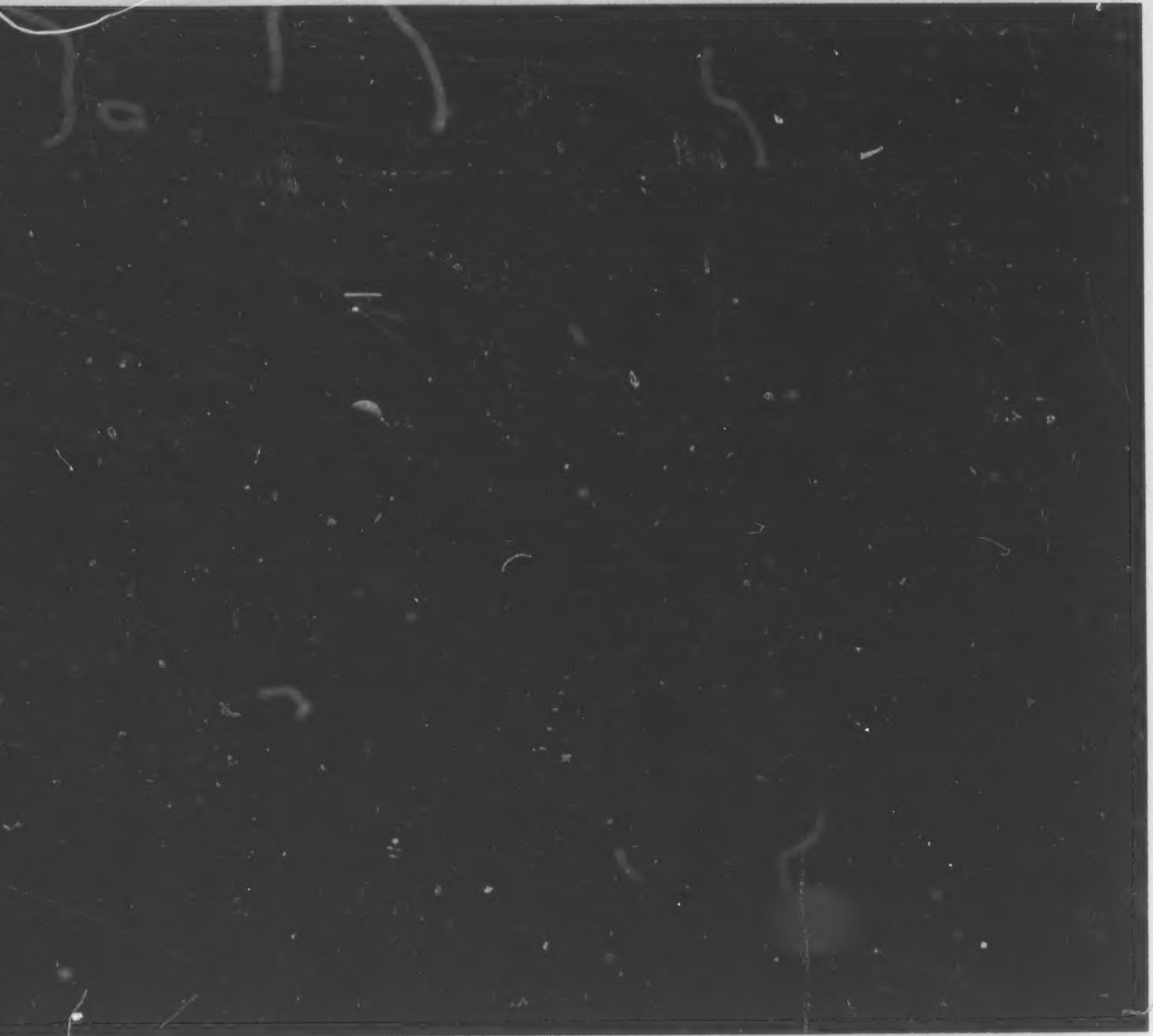
Military-industrial policy is not particularly efficient. Soldiers aside, defense spending will create around 1.2 million new jobs between now and 1987. But economists calculate that the same investment in the civilian economy could produce roughly 25% more jobs. And nobody needs an Aquila spy drone to locate the military's presence in a federal budget glowing deeply in the infrared. Financed by personal taxes, that $930 billion will take a toll of private consumption. Financed by government borrowing, it will crowd out private investment and invite inflation.

But the buildup will provide timely financial and technical stimulus to many companies in the durable goods industries—aerospace and communications equipment companies and machine tool makers in particular. That's because the fastest-rising part of the budget is procurement—$64 billion this year, $107 billion in 1987. Most of that goes for weapons.

Durable goods manufacturers suffered badly after procurement for the Vietnam war wound down. Defense purchases of hard goods peaked in 1967, when they accounted for 13.5% of production, and fell to around 5.5% in 1973. They didn't get much higher for the remainder of the decade. The drop-off probably played a role in the sluggish performance of basic industry during the 1970s. "When that much of an industry is going down the tubes, it's got to have a disruptive effect," says George F. Brown Jr., group vice president of Data Resources Inc. (DRI), an economic forecasting concern.

Now military spending on durable goods is soaring, and within a few more years it should be claiming 13% of durable goods output, almost equal to its share during the Vietnam era. According to DRI, defense purchases will account for nearly half of the growth in the aerospace industry and 20% of the growth in electronics through 1987. The slow-growing primary and fabricated metals industries can expect a major boost, with nearly 20% of their new demand coming from defense. And "orders from defense contractors are the most active part of the machine tool business," observes Clifford R. Meyer, president of Cincinnati Milacron, the largest U.S. machine tool maker.

RESEARCH ASSOCIATE *John Paul Newport Jr.*

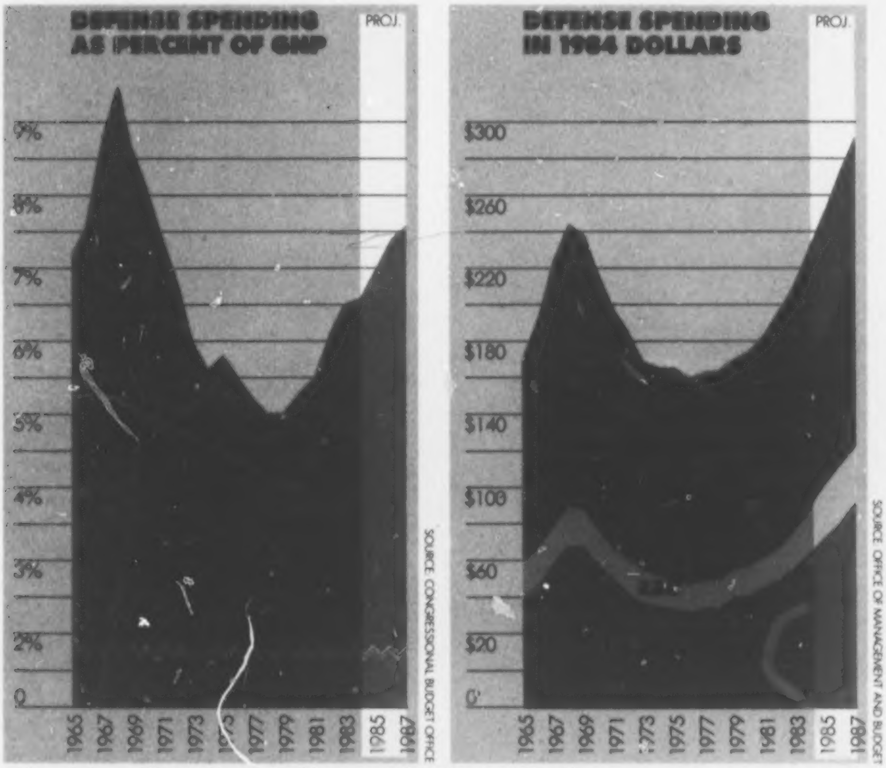


monitor hostile territory with TV and infrared sensors and direct missiles to enemy formations with lasers.

The buildup is not likely to disrupt many industries. Some producers of specialized items for aerospace will come under pressure if commercial demand revives—among them makers of titanium and aluminum castings and forgings, and producers of materials such as titanium sponge. But these are bit players in the economy.

The electronics industry looks as if it ought to be a trouble spot, since it's operating at over 90% of capacity. But most of the demand created by the defense budget is for such communications equipment as electronic warfare devices and radar, sonar, reconnaissance, and surveillance systems. For the next few years demand for those goods is likely to outstrip the industry's ability to add capacity. But the higher prices that result will apply mainly to the military; there's little overlap between civilian communications requirements and the highly specialized military items, except for weather forecasting systems and civilian radar.

In the semiconductor and computer industries, defense needs are indeed clashing with zooming civilian demand. Semiconductors are desperately pinched at the moment, with orders running 50% above sales. But the disruptions will probably neither impede the sales of semiconductors or computers nor drive prices up. In the short run, foreign competitors will eagerly seize the opportunity to gain market share. Japanese shipments of semiconductors to the U.S. nearly doubled in 1983, for example, and should double again this year to more than $1 billion. And the capacity problems are unlikely to persist. Chipmakers are rushing to add new plants, and most gloomily anticipate a slump as early



SOURCE: CONGRESSIONAL BUDGET OFFICE

SOURCE: OFFICE OF MANAGEMENT AND BUDGET

The Road to Spending, Sixties-Style

Defense spending as a percent of gross national product fell to its lowest point since 1950 during the 1970s. Under the Administration's proposed budget, it will be back up to 7.6% by 1987, still well below its share in the Vietnam era. But weapons procurement, the fastest-growing part of the budget, will be up 61% from 1983—a third higher than at the height of the Vietnam buildup.

	TOP TEN DEFENSE CONTRACTORS	FISCAL 1983 DEFENSE CONTRACTS (millions)	1983 TOTAL SALES (millions)	FORTUNE 500 RANK
1	General Dynamics	$6,818	$7,146	46
2	McDonnell Douglas	$6,143	$8,111	42
3	Rockwell International	$4,545	$8,098*	43
4	General Electric	$4,518	$26,797	10
5	Boeing	$4,423	$11,129	27
6	Lockheed	$4,006	$6,490	50
7	United Technologies	$3,867	$14,669	18
8	Tenneco	$3,762	$14,353	19
9	Howard Hughes Medical Institute	$3,240	$4,938	—
10	Raytheon	$2,728	$5,937	59

*Fiscal year-end September 30

The Big Guns of Defense Contracting

The military buys the lion's share of its hardware from the aerospace, electronics, and shipbuilding industries. Some of the fiscal 1983 contracts are multiyear programs, but in general the contracts mirror the relationship of military sales to the total sales of the companies listed.

as 1986 (see "The Coming Glut of Semiconductors," FORTUNE, March 19).

For the aerospace industry and most of its suppliers, the military buildup is nothing but good news. The industry is running at 73% of capacity in a depressed world market for commercial aircraft. Most aerospace companies can be regarded as Pentagon dependents—of the major ones, only Boeing gets less than half its revenues from the military. Defense spending will help push capacity utilization toward its 1979 peak of 89% by 1987.

Aerospace stands to benefit in a major way from a sorely needed upgrading of manufacturing operations spurred by military spending. Though advanced aircraft are among the most complex of high-tech products, they have mainly been built with low-tech craft methods by highly paid machinists. The results: railroad-era productivity and huge piles of work-in-process inventory. But the industry has been too strapped for cash to invest in new manufacturing technologies such as sophisticated flexible manufacturing systems (FMSs) that promise to bring the cost benefits of mass production to the smallest runs (see "The Race to the Automatic Factory," FORTUNE, February 21, 1983). The Pentagon is stepping in with programs to modernize its suppliers' production.

The oldest and most effective of these is the Manufacturing Technology program, which gets a lot of leverage out of a relatively small budget ($200 million this year). Man Tech, as it is called, has racked up impressive accomplishments over the years. Numerically controlled machine tools, a quantum leap in machine tool technology, came out of Man Tech in the 1950s. More recently the program has midwifed such techniques as laser welding—Avco Lycoming is using it to save $500 on each engine it builds for the M-1 tank—and photogrammetry, an optical system for checking the precision of machine cuts, which Rockwell is adopting for its work on the B-1 bomber.

Following up on $7 million in Pentagon seed money, Westinghouse Electric has plowed $55 million into developing robotic assembly systems and building a highly automated new factory in College Station, Texas, where it expects to save itself and the government $400 million over the next seven years making radar systems for the F-16 fighter and other military planes. Man Tech is also pushing development of software that will tie computer-aided design and computer-aided manufacturing into integrated, factorywide systems. "The defense industry is on the leading edge of technology here," says Cincinnati Milacron's Meyer.

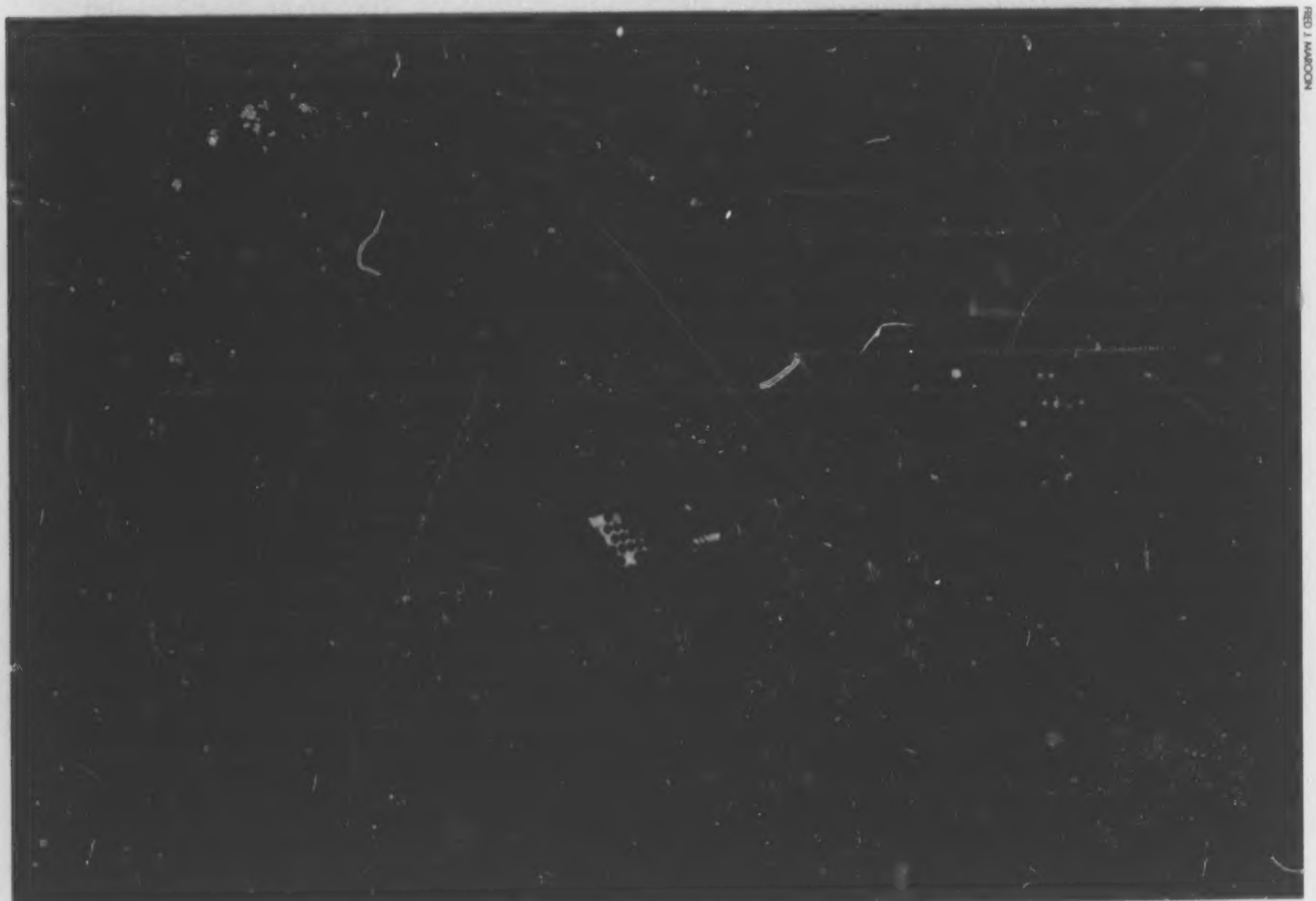
To get new developments onto the factory floor, the program sponsors demonstration projects, paying defense contractors to produce trial batches of parts using risky but promising technologies. If they work, the manufacturer has the option of buying full-scale versions and putting them into production. For proven technologies, another program called the Industrial Modernization Incentive Program works with Man Tech. A manufacturer who buys highly advanced machinery gets to keep some of the savings—how much depends on the amount invested and what the Defense Department would have paid for the work if older machines had been used.

LTV's Vought Aero Products division last year spent $10.1 million for a flexible manufacturing system to machine parts of the B-1 bomber fuselage, which it is building as a subcontractor to Rockwell. The machines start up in July, and Vought expects them to save $21 million over a production run of 82 planes. Under the cost-incentive plan, Vought will get half the savings, the balance will be split between Rockwell and the Air Force, and Vought will continue to get the machine's benefits long after the last B-1 rolls off the line.

"The biggest thing with the FMS is that we're moving from batch to serial production," notes Gerald E. Ennis, director of industrial modernization at Vought. In batch production, components are produced in small lots and sit around as work-in-process awaiting the next manufacturing step. In serial production an entire set of components can be produced in one run—in Vought's case that comes to 541 separate parts—while the system schedules itself, thanks to sophisticated software. Vought estimates that idle machine time will be slashed 95%. Work-in-process will be cut sharply, with major savings in inventory costs. And labor productivity will triple. The Vought installation is a vital showcase for the new technology, attracting swarms of executives from other aerospace companies to Dallas. Boeing is considering buying a similar system soon.

Out beyond programs like Man Tech, the Pentagon finances a prodigious amount of research and development work. Military R&D spending—$29.3 billion this year—accounts for nearly one-third of total U.S. R&D, up from a quarter four years ago. It's not correct to regard the Pentagon as a vast Bell Labs, since 90% of that money goes to develop and test military projects that mostly have no potential benefit in the civilian world. Even so, most commercial advances in aviation, from aircraft and engine design to materials and avionics, owe their origins to military research. A good chunk of the $3 billion spent on research this year will go into electronics and aerospace. In these areas, boasts Edith W. Martin, Deputy Under Secretary of Defense for Research and Advanced Technology, "Defense research presses the limits of science and technology."

THE PENTAGON'S highest-priority technology is a program called VHSIC (very high speed integrated circuits), an attempt to leapfrog semiconductor technology and develop devices that can process information 100 times faster than present chips. Such chips are a crucial element in "smart" weapons that need to react instantly to information that sensors feed them about their surroundings.



FRED J. MAROON

Electronics gear, *like this seagoing fire-control system, accounts for a growing share of military spending.*

Phase I of VHSIC involves nine companies, among them Texas Instruments, Hughes Aircraft, and TRW. They have succeeded in producing the most compact chips around, with circuits only 1¼ microns (50-millionths of an inch) wide. That makes them quicker, expanding their range of application. "We've gotten a lot of leverage out of VHSIC, since it stimulated activity among non-program participants," says E. D. Maynard Jr., the program director. "The major military suppliers feel they need to develop this technology to remain competitive." The Pentagon intends to make the chip design available to all security-cleared comers.

VHSIC chips also could have important commercial applications. Systems operating in "real time," where not everything is predictable and programmable in advance, generally require sensor technology. According to Larry W. Sumney, Maynard's predecessor at VHSIC and now executive director of the Semiconductor Research Corp., an industry research cooperative, "The possibilities are endless." The technology that guides a weapon to a target can be used to guide a robot in a factory, and detecting submarines with sonar is similar to detecting earth noises in seismic monitoring.

PHASE II of the VHSIC program is aimed at getting chips with circuitry only a half-micron wide, too tiny for conventional semiconductor manufacturing equipment to print. With $4 million of defense money along with $6 million of its own, Perkin-Elmer Corp. has developed a "direct write electron beam" (E-beam) machine. Unlike the photographic process used today to engrave semiconductors, the electron beam inscribes circuitry directly on the chip, with far greater precision. Perkin-Elmer intends to market a commercial version of this machine within the year. The Japanese, who have been big customers for U.S.-made photolithographic machines, are now building most of their own, and developing E-beam machines too. Says Gaynor N. Kelly, executive vice president at Perkin-Elmer: "Without government investment in the early stages of R&D on advanced lithographic tools, I doubt we'd still be in a race with the Japanese."

Many chipmakers, however, are far from convinced that such programs are what their industry needs just now. Intel, for example, chose not to participate in the VHSIC program because, says Chairman Gordon E. Moore, "VHSIC required the same resources we needed for our commercial programs, particularly people who are in short supply." VHSIC's commercial utility, he argues, depends on how fast the demand for custom and semicustom chips grows. Last year they accounted for less than 10% of the market. Maynard thinks they will claim half of the market by the end of the decade. Moore thinks 20% is more like it and argues that private industry can meet the commercial demand for such chips without VHSIC technology.

More broadly, Moore argues that the Pentagon's demands are diverting resources—especially people—away from semiconductor research with high commercial potential into esoteric military work. Indeed, a new National Science Foundation study predicts that industry will face a shortage of electrical and electronics engineers, as well as computer specialists, over the next few years. That would slow progress, and raise costs, in the industries that employ them.

continued

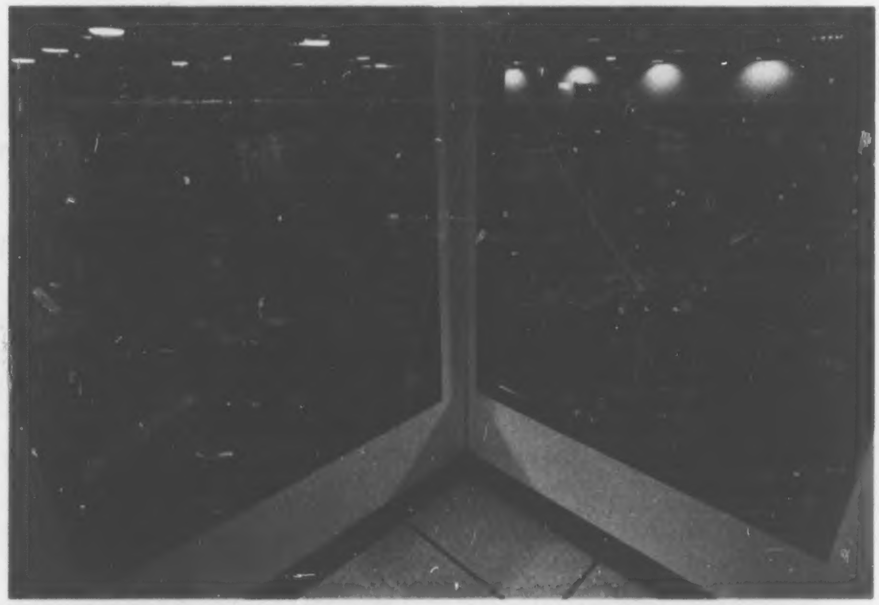
THE KREMLIN'S ELUSIVE BUDGET

■ Last fall the CIA announced that Russian military spending had been growing at 2% per year since 1976, rather than the 4% to 5% originally calculated. That ought to have rearmed the critics of the military budget, which the Reagan Administration links to the putative Soviet growth rate, but after a brief flurry of headlines the matter faded from public view. What happened?

No one outside the Kremlin knows for sure how much the Russians spend. The CIA judges Soviet expenditures by calculating the cost of producing equivalent goods and services in the U.S. One problem with that is that every time U.S. troops get a pay raise, the Soviet military effort shows an increase. As a sort of cross-check, the CIA calculates the ruble cost of the U.S. defense effort. But nobody can put a price tag on high-technology weaponry the Russians can't build at all.

The CIA won't say why it changed its mind. Its cousin, the Defense Intelligence Agency, estimates Soviet expenditures using classified methodology (it admits to a 30% margin of error). The DIA does not see any sign of a slowdown in the number of rubles the Russians are spending.

However obscure its cost, Soviet hardware itself is highly visible, thanks to spy technology. And on that score, there's no disagreement: though the rate of Russian weapons acquisition has slowed in recent years, the arsenal is huge and growing.



ARTHUR MEYERSON

On the B-1 bomber line *at LTV's Vought Aero Products division, a $10.1-million flexible manufacturing system built by Cincinnati Milacron can machine 541 parts in one run.*

Downstream from VHSIC lies the so-called Strategic Computing program. It is supposed to get some $600 million over the next five years from the Defense Advanced Research Projects Agency (DARPA), which finances high-risk projects with potentially high payoffs. In the past it played a key role in the development of such techniques as computer time sharing and languages. Much of the $600 million is going to universities and corporations to stimulate research into microelectronics, computer architectures, and artificial intelligence. The project is aimed at developing computers that understand human languages, synthesize speech, process visual information, and simulate human reasoning.

The military goals include developing vehicles that can drive themselves, a large-scale battle management system, and a "pilot's associate"—a machine that would verbally deliver information to fighter plane pilots and take orders. The civilian spinoffs are distant but could be immense. DARPA is the biggest single dispenser of dollars to U.S. industry in a global race to produce what could be the next revolution in computer design (see "Reinventing the Computer," FORTUNE, March 5).

DEFENSE SPENDING, of course, has to be judged on its own terms and not for its value as surrogate industrial policy. In the words of Secretary of Defense Caspar W. Weinberger, "What we spend is designed entirely to preserve the peace. Some of it just so happens to help American industry."

Almost any other type of R&D program would be likely to yield greater returns on investment. The Japanese spend their national R&D money on specifically commercial projects. More efficient research aimed at developing distant technologies may emerge in the U.S. now that antitrust laws have been relaxed to make room for joint industry research efforts like the Semiconductor Research Corp., which is spending $13.5 million this year to finance basic research at universities.

Nonetheless, the technical spinoffs from military spending have provided powerful consolation prizes over the years. DARPA's artificial intelligence may yet prove to be tomorrow's follow-up to earlier military technologies, like the jet engine and the computer, that went on to change the world. The military isn't the best R&D game in town, but it's the longest-running game—and for now, the one with the biggest pot.

PRACTICAL PENTAGON PEDAGOGY

■ At Fort Knox, Kentucky, recruits fresh from boot camp, many innocent of high school diplomas, are learning to repair laser range finders and other sophisticated systems on the Army's new M-1 tank. Tracing with their fingers and mouthing words as they go, they use manuals crammed with flow charts and an electronic practice panel full of switches to learn the basics of trouble-shooting. Then they lower themselves into one of the $400,000 mock-ups of the M-1 turret and practice the delicate art of hooking up cables with fragile connector pins that lead to a diagnostic computer. Hand-held readout devices, also connected to the computer, tell them which electronic modules to replace in the tank. "You could almost walk in off the street and do it," says one.

The Department of Defense runs the world's largest training-school system (1984 budget: $13.4 billion). But conventional training couldn't cope with the complicated weapons developed during the 1970s, so the Pentagon made training more sophisticated and the repair work itself simpler. The systems it has developed, like the M-1 tank program, have begun to attract the attention of civilian companies and educators. A voice-controlled electronic repair manual (the information appears on a thin, portable screen) developed for the Pentagon by Texas Instruments could be a common sight on civilian shop floors in the 1990s. General Electric has used its experience building simulators for fighter pilots and tank crews to trouble-shoot automated factories and train locomotive mechanics.

The military also makes widespread use of computer-aided instruction—Defense Department analysts figure the technology chops training time by 30%—but not much of the software has made it to civilian life so far. Senator Claiborne Pell (D-R.I.) was expected to introduce legislation this month to create an office in either the Labor or Education department to catalogue what's available and adapt some programs so they can be used by small businesses or for training dislocated workers. Meanwhile the Pentagon is returning veterans to society with better training than ever. Last year 960 computer programmers, 4,044 radio and microwave technicians, 8,088 vehicle mechanics, and 20,755 aircraft maintainers left the services to look for civilian jobs. Partly to aid their transition, the Pentagon has just completed a $2-million project matching military job descriptions with Labor Department classifications. That may help the 5,237 "combat operations control, general" veterans whose experience with radar and electronics might otherwise go unnoticed.

—John Paul Newport Jr.

ROBERT HOWER

Computer instructions *help a recruit learn to maintain M-1 tanks at Fort Knox.*

MONEY & MARKETS

WHEN PAYING OFF A RAIDER BENEFITS THE SHAREHOLDERS

Most corporate executives, and the SEC, abhor "greenmail"—the increasingly common practice of using stockholders' money to persuade a potential acquirer to go away. But there are worse things for stockholders than greedy suitors.

■ *by Richard I. Kirkland Jr.*

WHEN IAN WILSON, chief executive of Honolulu-based Castle & Cooke, picked up the phone on the morning of March 9, Texas financier Charles Hurwitz was on the line. According to Wilson's sworn testimony, Hurwitz, who already owned nearly 12% of the $1.5-billion-a-year food company, warned that he was about to purchase another 18% of the company's stock. Hurwitz then said that if Wilson and his board of directors didn't want to see him take control, their only option was to buy him out at a fat premium—pronto. (Hurwitz, also under oath, denies making this threat.) First Wilson sued to block the Texan from buying any more shares. Then he caved in and bought back Hurwitz's shares for $14 million more than the investor had paid.

A large investor's pitch for a payoff is rarely so graceless as the one Hurwitz allegedly made—and certainly doesn't come via an anonymous message in an envelope. Instead, an investor with an acquiring mind may accumulate shares, make a tender offer, or threaten a proxy fight. Once management has established that it might successfully block his bid for control, he may agree to a "bribe" and go away. In just that way Warner Communications recently paid Rupert Murdoch, the Australian press baron, a 33% premium for the 5.6 million shares he had bought in his effort to take over the entertainment giant. Warner kicked in an additional $8 million for "expenses" in exchange for Murdoch's pledge to leave the company alone for ten years.

RESEARCH ASSOCIATE *Philip Mattera*

In a less common variation, an investor with no apparent hankering for control may pick up a large chunk of stock and wait, as takeover rumors swirl, for management to make him an offer he can't refuse. One sign that someone may be after a quick payoff is a position of just under 10% of the company. An investor holding more than 10% is considered an insider by the Securities and Exchange Commission. If an insider sells back his stock to the company in less than six months, his profits may be forfeited if other shareholders sue. The Bass brothers of Fort Worth, Texas, held 9.9% of Texaco, and did nothing until the men who wear the stars offered them $1.28 billion to get it back. That was a 12% premium over the market price and brought the Basses an estimated $400-million profit.

ONCE RARE, these dramatic buyouts are increasingly the defensive tactic of choice among managers anxious to avoid takeover fights or to end battles already joined. In March alone, as the table shows, four U.S. corporate giants—Quaker State Oil, Texaco, Warner, and St. Regis—shelled out more than $1.5 billion to buy back blocks of stock held by unwanted investors. Academics refer to these premium buyouts as targeted stock repurchases. On Wall Street, the phenomenon is sometimes called a goodbye kiss. More commonly such payments are known as greenmail in acknowledgement of the strong whiff of extortion they carry.

Compared with other options commonly used to fend off unwanted acquirers—selling a company's so-called crown jewels, loading up the balance sheet with debt, or recruiting a buyer more congenial to incumbent management, called a white knight—greenmail causes the least disruption to the company's operations. Under most corporate charters, such payments require no OK from other shareholders. Best of all, should any of those shareholders sue—and someone usually does—the courts have so far never found these payoffs to be a breach of management's fiduciary duty.

Still, hardly anyone likes greenmail. At its darkest, the phenomenon is seen as top executives using small shareholders' money to buy out larger ones in order to protect the executives' jobs, and doing so in a way that lowers the value of the small shareholders' stock. Most chief executives of companies that have recently paid greenmail have been sued by angry shareholders. Citing that as their reason, all C.E.O.s contacted by FORTUNE declined to defend their actions in interviews. Even executives in unaffected companies refused to talk about greenmail on the record. Some cited a distaste for openly criticizing corporate colleagues. Others presumably preferred not to have to eat their words should they fall into similar straits.

But one New York-based chief executive can't resist fuming, "The practice just stinks. It's wrong. Managements may be able to find a million reasons to justify it, but basically the purpose of paying greenmail is to keep management in control, not to protect shareholders." Observes the chief executive of a multibillion-dollar corporation in the Mid-

CONSTRUCTION BY SU FRIEDRICH, PHOTOGRAPH BY CARL ZAPP

west, "Basically it's blackmail." Agrees Bevis Longstreth, a former SEC commissioner, "It just isn't right. Those corporate assets belong to shareholders pro rata. So how is it that managements can justify paying one dissident shareholder a disproportionate share of the assets they all own?"

As a matter of simple equity, they can't. What managements always argue is that *they* know best how to create wealth for shareholders, and thus in the long run the peace such payoffs buy will benefit the remaining shareholders. To buttress their case, they usually shell out even more of the shareholders' money to get investment bankers and lawyers to certify that this is so. Says lawyer Martin Lipton, whose specialty is defending incumbent managements: "As matters now stand, the only practical solution for managements seeking to maximize long-term shareholder value is to pay the greenmailer."

If they wanted to, executives could put through a change in the corporate charter to forbid stock repurchases at a premium unless they were part of a general tender offer. Mead Corp., a $2.4-billion-a-year forest products company, has had just such a provision in its bylaws for more than 50 years. Why don't more managements follow Mead's lead? "Because they like having the option as a way of removing troublesome shareholders," says Longstreth. New York-based investor Carl Icahn is one shareholder whose frequent sorties into ailing companies (Anchor Hocking, Owens-Illinois, Hammermill Paper) have sometimes ended in his shares being bought back at a premium by panicked managements. Says Icahn: "I've often been willing to take a position and simply sign a standstill agreement because I wanted to go on the board. But management will basically say to me, we don't like you, here's a lot of

Takeover-wary managements *at these companies were willing to pay a king's ransom to rid themselves of acquisition-minded stockholders. Some of the sellers listed below are the lead companies in groups headed by investors Charles Hurwitz (United Financial), Saul Steinberg (Reliance), and Sir James Goldsmith (Dia Investment). News International is controlled by Rupert Murdoch.*

Mr. Chairman:
Shell out...
or else!

DATE	COMPANY BUYING BACK STOCK	SELLER	SELLER'S GROSS PROFIT (millions)	PER-SHARE PREMIUM OVER MARKET PRICE
4/84	Castle & Cooke	United Financial	$14	$4.232
3/84	Quaker State Oil Refining	Reliance Financial Services	$11	$5.25
3/84	Warner Communications	News International	$50	$8.025
3/84	St. Regis	Dia Investment (Antilles)	$50	$11.875
3/84	Texaco	Bass Brothers Enterprises	$400 (est.)	$5.375
2/84	Houston Natural Gas	Coastal Corp.	$42	$14.70
11/83	Blue Bell	Bass Brothers Enterprises	$49	$11.138

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money, go away. And if I don't take it, they threaten me with onerous and extremely expensive litigation."

To put an end to such protection payments, in late March SEC Chairman John Shad asked Congress to step in. Shad proposes a new law requiring that targeted buybacks of a company's shares at a market premium first be approved by a majority vote of all shareholders. Purchases of shares held for longer than two years would be exempt from the plebiscites. That proposal was just one of a number of changes recommended by the SEC's advisory committee on tender offers, an all-star conclave of some of the most prominent players of the mergers and acquisitions game, including Lipton, lawyer Joseph Flom, and investment banker Bruce Wasserstein, managing director of First Boston Corp.

At first blush, the SEC's intervention seems eminently justified. Bad enough that greenmail seems a form of corporate extortion. Even worse, various studies have found that greenmail payments depress the value of the remaining shareholders' stock by 4% to 13% on average. The biggest losses occur when such payoffs help quash a formal takeover bid. For example, the day after Houston Natural Gas bought off maverick oilman Oscar Wyatt Jr. in February with an offer of $60 a share for his holdings—plus a peace payment of $15 million for about one month's worth of legal fees—Houston Natural's shares plunged from $52.50 to $43.25. Arbitragers, who had picked up Houston Natural shares on the rise in anticipation that Wyatt's $68-a-share tender offer would succeed, got hammered. In a rare breach of institutional etiquette, one arbitrager, Guy Wyser-Pratte of Prudential-Bache, has persuaded his company to sue the directors of Houston Natural, a client of lawyer Lipton's, for violating their fiduciary duties to shareholders.

BUT UPON closer examination, it's far from clear that greenmail has harmed shareholders on balance. Academics far removed from the takeover fray are the ones doing the examining. Sanford Grossman, an economics professor at the University of Chicago, constructs a theoretical, perhaps farfetched, case in which paying greenmail seems justified: management has knowledge of some imminent business development—a stunning technological breakthrough, say—which it must conceal from potential competitors. In that instance the increase in the company's stock price once that information is known could easily exceed the value of the ransom paid to fend off a potential acquirer.

Stronger evidence in favor of allowing greenmail comes in a fascinating new study by professors Wayne Mikkelson of the University of Chicago and Richard Ruback of MIT's Sloan School of Management. They tracked 32 cases of targeted stock repurchases that occurred between 1978 and 1981. Instead of examining the share price just before and just after the payoff, they went back to the time a so-called raider acquired 5% or more of a company's stock. After adjusting for broad movements in the stock market, Ruback and Mikkelson found that while share prices fell 1.7% on average after a buyback, those prices were *still* some 2% higher than before the potential acquirer appeared on the scene. "I was shocked by those numbers," admits Ruback.

Martin Lipton

"Corporations seeking to maximize long-term shareholder value have to pay the greenmailer."

GEORGE LANGE

Guy Wyser-Pratte

"I've never seen a case where management benefited shareholders by paying greenmail."

An application of the Mikkelson-Ruback model, but without discounting market swings, shows that Texaco was selling for $36 to $38 a share in mid-January, before it became known that the Bass brothers were on the prowl. Even after dropping nearly $6 a share on March 6, the day the Basses were bought out, Texaco's stock closed at $38.75 a share. It has since been hovering in the $39 to $40 range. Similarly, when British investor Sir James Goldsmith acquired an 8.6%

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LITTLE, BROWN and COMPANY

block of St. Regis, the stock was selling at around $35. Even after falling more than $3 a share on the news that Goldsmith had been taken out at $52 a share, St. Regis stock never dipped below $37 a share and recently stabilized at around $40.

The Mikkelson-Ruback findings support the seemingly radical conclusion that denying savvy investors the chance to engage in a little legal extortion might in fact be bad for shareholders. In most cases shareholders would be better served if managements didn't pay greenmail. But even when they do pay, most shareholders—though perhaps not arbitragers—still prosper, if for no other reason than that the company may catch the eye of yet another would-be acquirer.

Most economists have no doubt that both shareholders' interests and economic efficiency would suffer if the overall level of takeover activity declined. Michael Jensen, professor of finance at the Graduate School of Management at the University of Rochester, figures that shareholders of acquired companies generally gain as much as 20% to 30% on their investments as a result of the takeover process. He fears takeovers would dwindle if potential acquirers could no longer anticipate greenmail to take the pain out of a failed takeover bid. Concludes Jensen: "I'm convinced that the SEC's proposed rule restricting these payments will only end up harming shareholders and strengthening the hand of entrenched managements."

REJECTING Jensen's laissez-faire logic, John Huber, director of the SEC's corporation finance division, argues that banishing greenmail would not deter "someone who is serious about a takeover," as opposed to a raider who would happily be bought off. But it seems almost impossible to distinguish between the two. Says Gary Palmero, a financial analyst with Oppenheimer & Co., "The point is, guys like Jimmy Goldsmith or the Basses have the marbles. Choosing to call their bluff is a very dangerous game to play."

In arguing for the SEC proposal, Huber says, "The pressure put on management by the greenmailer is simply not the kind of activity that tender offers were designed to permit." Former SEC Commissioner Longstreth goes further, saying that "even if prohibiting greenmail reduces takeover activity somewhat," he'd "take that risk." But lacking evidence that greenmail has harmed shareholders or certainty that preventing it wouldn't leave them worse off, it's hard to see why that's a risk worth taking. ◼

FRANCE FLIRTS WITH THIRD WORLD DEBTOR STATUS

■ Despite the initial success of the Socialist government's swing to the right, some international bankers fret that France is headed inexorably toward status as a risky international borrower. The size of the French debt isn't the problem. The government admits to $56 billion of medium- and long-term foreign debt. Unofficial estimates put the total, including short-term loans, at over $100 billion, a tower of debt larger than that of either Brazil or Mexico. But that's a burden an industrialized country such as France can support.

What worries bankers is that the government might not keep on taking its own harsh medicine. France's borrowing binge began in mid-1981 when the government of Francois Mitterrand chose to stimulate consumption while the country's major trading partners were in an economic slump. The results were predictable. The market for French goods was depressed, yet French consumers gobbled up imports. Private capital fled after the election of the Socialists, helping to devastate the balance of payments. The currency markets pummeled the franc, prompting three devaluations.

The French government is coy about its external debt. It only recently acknowledged the medium- and long-term total of $56 billion. Morgan Guaranty Trust Co. estimates that at the end of 1983 France's total external debt, including short-term loans and interbank deposits, was as much as $110 billion. The payments required to service this debt range from $8 billion to $10 billion a year, although a bunching of maturities may require interest and principal repayments of nearly $14 billion a year in 1987 or 1988.

All of this is manageable if France can steel itself to keep the debt from growing further. So far the news is good. Estimates by the Morgan bank show that French borrowings in the Euromarket dropped to $8.2 billion in 1983 from $14.2 billion in 1982. Bankers expect France to borrow about $8.1 billion in 1984, most of which will involve rolling over existing debt.

Mitterrand benefited tremendously from the international economic recovery. His switch from stimulative spending to austerity 18 months ago cut demand for imports among Frenchmen just as other countries were climbing out of a recession and buying French goods. The trade and current account gaps improved dramatically. The trade deficit fell from $15.9 billion in 1982 to $7.7 billion, while the current account deficit dropped from $12.1 billion to $3.8 billion and could be almost eliminated this year. "There has been an adjustment," says Stan Rudcenko, a Bankers Trust economist in London. "That's the fundamental difference between France and Brazil."

But next year the French trade position is almost certain to deteriorate. With the French economy growing, imports will increase, while exports are unlikely to grow as rapidly. The current account balance could slip deeply into the red again, which would bring France face to face with one of the fundamental laws of the financial universe. That law, as expressed by Rudcenko: "You can't go on indefinitely running deficits of $10 billion or $12 billion a year."

The deficit is likely to put the franc under pressure again. Mitterrand will have to allow the franc to fall, a step that hasn't been easy for the government to take in the past. If the German mark strengthens rapidly against the franc, as many economists expect, France will face the unpalatable task of accepting a realignment of the European Monetary System, which allows the franc no more than a 4.5% swing against other European currencies. "There will be pressure for another de facto franc devaluation," says Roger Shields, chief international economist at Chemical Bank.

It may prove politically impossible for Mitterrand, or any other French president, to win the battle against the debt bulge. The eventual cure will be to keep French economic growth no greater than that of its trading partners, which might mean an average of 2% a year in real economic growth, a figure that may be an affront to Gallic pride. The test of Mitterrand's determination will come next year as he prepares for the next major French election in 1986. Workers are demanding higher wages and faster economic growth. If Mitterrand gives in, stimulating the economy again would bring increased borrowing. And that could ultimately place control of economic policy in the hands of France's bankers. **—Gary Hector**

HOW DEBT STACKS UP

COUNTRY	EXTERNAL DEBT in billions	% OF GROSS DOMESTIC PRODUCT*
Brazil	$85.2	59%
Mexico	$87.0	52%
Canada	$99.5	34%
Argentina	$36.5	30%
France	$106.1	20%
Italy	$66.0	19%
W. Germany	$119.4	18%

*Countries ranked according to percentage of GDP
Source: Estimates by U.S. banks

France is the most heavily indebted of the major European nations.

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write the budgets that delivered on the Socialists' campaign promises—and plunged the nation into economic chaos.

As Mitterrand switched from expansion to austerity, Fabius led the way. A year ago, his reputation as a reformed big spender growing, Fabius was named Minister of Industry. As such he holds sway over a sprawling family of state-owned companies. Thomson-CSF, Saint-Gobain, and six others were nationalized in 1982, while Renault and Elf-Aquitaine have been state-owned for years. Fabius decides who will get precious injections of government capital.

Fabius replaced a hard-line Socialist, Jean-Pierre Chevenement, the whiz kid of the Socialist party's left wing. Chevenement's spell as Minister of Industry lasted only eight months, but it amounted to eight months of frustration for the presidents of some of the nationalized companies. Charismatic and loquacious, Chevenement loved to stage splashy conferences on industry that assembled thousands. His staff constantly pestered

[500]

SPECIAL REPORT

TEN YEARS THAT SHOOK THE FORTUNE 500

THE DECADE just ended—1974 through 1983—was the toughest for business in nearly half a century. It began with the deepest economic decline since the Depression. It ended with the nation picking itself up from back-to-back recessions. Mild in their effect on many industries, the twin recessions of the early 1980s devastated the manufacturing industries that loom large in the FORTUNE 500.

This special report closely examines how the 500 largest U.S. industrial corporations and their shareholders fared over the dismal decade. The hangover from that period, and the strangeness of the recent recovery, are visible in the 1983 profits of the FORTUNE 500. Sixty of the 500 lost money, a record for the 30 years that FORTUNE has compiled this list of industrial companies. Net of those losses, the group's profits were $68.8 billion. In real terms (with inflation stripped out), that was 22% below the $43.6 billion earned in 1974, itself a recession year.

That punishment might seem understandable if the 500 had been leading wasteful, no-account lives. But they have been disciplined savers, investing upward of $300 billion of retained earnings in their businesses over the ten years. And for that they got profits not even up to 1974's.

The 500 were hammered through the decade by new and unfamiliar costs. The Clean Air and Clean Water Acts and the Occupational Safety and Health Act were passed before 1974, but they administered their largest blows in the years since. Foreign exchange rates began to float in 1973, imposing new uncertainties on international companies. The clincher was energy costs. Date of takeoff: October 1973. Effect on an industrial world accustomed to declining energy prices: terrible.

The story that begins overleaf profiles 13 stars of the dark years—companies that outperformed all others. The next story looks at which investment strategies worked, and which didn't (page 239). Others focus on corporate name changes (page 249), on a drop in the 500's number of employees (page 253), and on the worst big mergers of the decade (page 262). The annual FORTUNE 500 directory begins on page 274, followed by a new feature that ranks the companies by 14 statistical measures (page 300).

[500]

CORPORATE STARS THAT BRIGHTENED A DARK DECADE

Thirteen companies managed to put together sterling records, earning returns on shareholders' equity that set them above the crowd. The ingredients of their success included market leadership, tight control of costs, and a talent for sticking to what they know.

■ *by Carol J. Loomis*

THE RIGORS of the last ten years created far more lamentable corporate records than laudable ones. Yet some of the FORTUNE 500 performed heroically. To single out a few, Chrysler and ConAgra got new managements and turned themselves from losers into winners. Capital Cities Communications, H.J. Heinz, and VF Corp. improved their profitability sharply, won reputations for excellent management, and were rewarded with handsome rises in their stock prices. A company that didn't even exist when the decade began, Apple Computer, vitalized the new personal computer industry and vaulted onto the 500, where in 1983 it ranked 299th in sales and 172nd in profits.

Another collection of stars are the subjects of this article. They are the companies on this year's 500 that surmounted the decade's traumas with particular style and made themselves its profitability leaders, earning the best returns most consistently. FORTUNE's benchmark in picking these standouts was return on shareholders' equity. Return on equity goes to the essence of corporate performance, and is just about the only measure that allows direct comparisons of companies in different industries. The median return for the 500 averaged 13.2% over the decade. Stardom was conferred on companies that averaged at least a 20% return and never sank below 15%.

That is an extraordinarily high standard. Consider the quality of a long-running 20% average: it is analogous to a savings account that annually earns the holder 20% interest—how many savings accounts do you know offering even half that much?—and that earns this premium rate on a larger amount each year, as profits are retained and begin themselves to earn an average 20%.

Such corporate savings accounts are so rare that only 13 companies among the 500 had records brilliant enough to meet the tests. The stars come from a spread of industries, but tend to share certain characteristics. Most are leaders in at least one product market; many are tight with a dollar; and many believe in sticking to businesses they clearly understand. For the most part (though there are exceptions) they do not lean heavily on borrowed money, which is one risk-laden route to a high return on equity. The low leverage is something of a surprise, since debt might seem the formula for success in an inflationary period, when loans can be paid back in cheap dollars. But most of the stars didn't need that crutch.

The 13 are led by a profit phenomenon, American Home Products, whose return on equity not only averaged 29.5% during the 1974-83 decade, but also has held above 20% for 30 straight years. American Home has traditionally ducked the limelight, and many businessmen and investors would have trouble naming a single product it makes. Anacin is one; others are Chef Boy-Ar-Dee pasta products, Brach's candy, and Gulden's mustard. But the bulk of the company's $627 million in profits last year (earned on $4.9 billion in sales) came from prescription drugs and nondrug products marketed through doctors, among them cardiovascular drugs (such as Inderal), oral contraceptives (Lo/Ovral), and infant formula (SMA).

Below American Home on the list are two other pharmaceutical companies, SmithKline Beckman and Merck—so it apparently helps to be in that industry. But the other ten companies on the list are strikingly diverse. Two industries that delivered investors a lot of action in the decade, communications and energy, have but a single representative each: Dow Jones and Mitchell Energy & Development. One entry, IBM, is near the leading edge of technology; another, Deluxe Check Printers, is on the trailing edge.

Certain household names made the assembly: Kellogg, Maytag, and Coca-Cola. But it also includes some relative unknowns that, amazingly, ply their trade in chemicals and metals, industries normally thought to be ruled by unrewarding commodity economics. Nalco Chemical sells specialty chemicals used, for example, in water treatment and corrosion prevention. Worthington Industries turns semifinished steel into finished steel for such customers as automotive and appliance companies. Dover Corp. is a metal bender whose nearly two dozen divisions make items ranging in size from elevators to wire closures for meat packages.

The generalization that explains the profitability of these three companies—and that goes a long way to explain the whole list—is that they have established a special

RESEARCH ASSOCIATE *Alison Bruce Rea*

PHOTOGRAPHS BY BRUCE DAVIDSON—MAGNUM

standing in their markets. On the inside cover of its 1983 annual report, Dover lists 27 products its divisions make; it is the market-share leader in 22. Nalco's edge is its expertise in the use of the chemicals it sells; it is counselor to its customers and problem-solver. In steel, Worthington has a reputation for quality workmanship that allows it to obtain premium prices. Additionally, it was started (in 1955) and is still run by a man, John H. McConnell, who is a bear about efficiency.

THE OTHER market-share leaders on the list include IBM. Kellogg, Coca-Cola, Deluxe Check Printers (it has more than 50% of the check-printing market), and Dow Jones (through its flagship product, the *Wall Street Journal*). Leadership turns up in other forms as well. American Home thinks of itself as having "specialty products" and as marketing these with particular skill. The preeminent quality of Maytag's appliances is celebrated in the company's advertising and confirmed by the premium prices it commands. Merck, though it has gone through a dry spell in research that has been whittling its return on equity, has been a research giant over the years and is still riding some of its earlier breakthroughs. And SmithKline has thrived with the standout new drug of the last decade, Tagamet, a therapeutic for ulcers.

In a way, the preeminence extends to Mitchell Energy. It has excelled at finding oil and gas, and its revenue growth has been extraordinary—up from $35 million in 1973 to nearly $1 billion last year. But to an extent not true of any other company on the list, Mitchell owes its presence there to leverage. At the end of its 1983 fiscal year (ended in January 1983), Mitchell's capitalization was 35% equity and 65% debt.

That load partly reflects large real estate holdings the company has in Houston, its home base. It also reflects Chairman George P. Mitchell's conviction that a growing company has to risk high debt. But a few stings have been felt from that risk: the company suffered liquidity pains in the mid-1970s and has been in mild discomfort lately. Mitchell, who founded the company in the 1940s and still owns more than half of it, is currently bent on getting his debt down. But he hasn't turned conservative: he's angling, he says, for a capitalization of 60% debt.

Beyond Mitchell and Worthington (whose capitalization was recently about 40% debt) the Gang of 13 does not qualify as a lender's delight. In the early part of the decade, Kellogg loaded up on debt by its standards, taking on $75 million in long-term 8⅝% money "to protect working capital during this uncertain inflationary period." The company's worries about working capital proved groundless, and the debt's mere existence appears to have made Kellogg feel a little tacky. In 1982, several years ahead of the debt's maturity, Kellogg wiped the liability off its balance sheet by an arcane maneuver that cosmetically (but not actually) shifted the obligation to third parties. Meanwhile Kellogg booked a profit on the deal. Says William E. LaMothe, 57, Kellogg's chairman: "It was simply debt we didn't need."

The adequacy of Kellogg's working capital fits the proposition that market leaders have an unusual ability in times of inflation to pass along their increases in cost to customers. That does not mean market leaders are free of worry about price increases—they agonize about losing business like everyone else. But when push comes to shove, a strong brand name or a rock-solid reputation for service will usually carry the day.

A GALAXY OF THIRTEEN

COMPANY	AVERAGE RETURN ON EQUITY 1974-83
American Home Products	**29.5%**
Dow Jones	**26.3%**
Mitchell Energy	**26.0%**
SmithKline Beckman	**25.4%**
Kellogg	**24.8%**
Deluxe Check Printers	**24.1%**
Worthington Industries	**23.9%**
Maytag	**23.1%**
Merck	**21.9%**
Nalco Chemical	**21.5%**
IBM	**20.5%**
Dover	**20.3%**
Coca-Cola	**20.3%**

To qualify for this assembly of stars, a company had to be on this year's FORTUNE 500 list, to have averaged at least a 20% return on year-end shareholders' equity over the 1974-83 period, and to have been so consistent that its return never dipped below 15%. Only 13 companies managed that on day-in, day-out operations. Another big earner, General Cinema, was excluded from the table because the company exceeded 20% only with the help of gains from the sales of assets.

Kellogg found that out early in the decade when commodity prices roared upward and the company faced the need to sharply increase cereal prices. Initially, costs rose faster than sales and profit margins shrank. But when commodity costs dropped in 1975, Kellogg kept part of its earlier price increases and in two years raised its return on equity dramatically, from 20% to 26%. So much for the ravages of inflation.

The basic case is that powerful brand names—and even more so, unique products—can be priced at levels that aren't tied to underlying costs. Security analyst Richard R. Vietor of Drexel Burnham Lambert explains the pharmaceutical equation: "Drug prices are not set in relation to the cost of producing the product. Rather, they're set in relation to their value to the buyer. If you're a pharmaceutical company and your drug has advantages over others on the market, the consumer is going to want your drug. And he will step up and pay you a price that will return you unusually good profits."

That generalization certainly applies to Tagamet, a true wonder drug that pushed SmithKline's return on equity above 30% from 1979 through 1981 (after which new competition for the drug and an unrewarding investment in Beckman Instruments knocked returns below 25%). The irrelevance of costs also applies to another kind of unique product, the *Wall Street Journal*. During the past decade, Dow Jones raised the paper's price repeatedly, typically explaining the increases by citing rising costs for postage and newsprint, which the company certainly incurred. But readers did not accept the price because they thought Dow Jones deserved the chance to pass along its costs and preserve its traditionally high margins on the paper. They paid the price because they want and need the product. They would have paid it just as readily had Dow Jones's costs been absolutely stable.

Not even a commanding market position can override a sea change in the environment, as Dover can unfortunately testify. During the Oil Patch boom, the company's Norris division made a mint on sucker rods, which are lengths of forged steel used to work the pumps at the bottom of drilling rigs. Norris offered both a first-class product and a nursemaid level of service, trucking the rods directly to the well site to protect drillers from downtime in their rigs. Norris also spent $25 million tripling its plant capacity to meet demand. Then the energy market deflated—and so did sucker rod prices, Norris's profits, and Dover's return on equity (which dropped to 15.4% in 1983).

Even so, says Dover Chairman Thomas C. Sutton, 63, the decision to expand Norris's capacity was eminently right, since it allowed the division to both serve its customers well and make the most of an unprecedented market opportunity: "When the circus comes to town, you rent every room in the hotel, at the best prices you can get. The circus arrived in the oil business when OPEC came along, and I would say that Norris totally capitalized on the marketplace. We earned an awful lot of money for the shareholders."

DOVER KEEPS rigorous control of costs. Its headquarters, in New York City, are remarkably modest for a company that last year had just over $1 billion in sales. In the mid-1970s, headquarters housed 13 employees; today that's escalated all the way to 21. Sutton and Gary L. Roubos, 47, Dover's president and chief executive, are repelled by the idea of golden parachutes. Dover has no executive limousines and no corporate airplanes, except for two small prop planes that operating divisions use to fetch customers for plant tours.

Dover may have to share the trophy for austerity with American Home, which is nearly five times bigger in sales and has no planes at all and only one limousine. In a world where chief executives of large FORTUNE 500 companies typically have multiple secretaries and assistants, Chairman John W. Culligan has no assistants and only one secretary. "We put a strong emphasis on not increasing staff," says Culligan firmly. The control of costs extends very definitely to amounts paid advertising agencies, consultants, and outside attorneys. "The company's impossible," says a consultant. But American Home is also disciplined in its attitude toward executive pay: if a division doesn't increase profits year to year, its managers don't get bonuses. Period, end, no excuses, no exceptions.

The divisions don't commit capital on whim either. Expenditures right down to $500 or so must be approved by headquarters. "I approve everything," says Culligan. "Let me amend that. Everything comes to me—they hope I will approve." An outside director who marvels at this system is Edwin A. Gee, who is chief executive of International Paper and formerly was at Du Pont. Says Gee: "They are very careful at American Home with the shareholders' money. They check everything, and that puts a tremendous load on the top management. And if it weren't for the fact it works, I'm sure we would all be saying that's a terrible way to run a $5-billion company. But if I were running that business, I sure wouldn't monkey with it."

The ultimate problem for American Home and most of the other companies on FORTUNE's list (though not Mitchell, which is busy paying down its debt) is how to cope with all the money they make. Few of these companies need to reinvest a lot of money to keep on making a lot of money. That's the way of good businesses—they insist on throwing off cash.

One way to handle this "problem" (for which most businessmen would kill) is to pay out high dividends. American Home pays out about 60% of earnings; Maytag has averaged over 70% this last decade. In a few years of the ten, IBM paid out more than half its earnings. Recently, with its growth surging, the company let its percentage payout fall back. Though investors don't always think of it this way, the lower payout is good news considering the rising returns IBM has been making on its retained earnings. For investors, the most wonderful holding of all is a high-return company that has high-return opportunities for reinvesting profits.

Another way besides dividends to get spare cash to the shareholders is through stock repurchases. This crowd knows the game well. American Home, Maytag, Coca-Cola, Nalco, and SmithKline have all announced stock repurchase plans recently, and several other companies among the 13 have bought their own shares in the past. Coca-Cola's and SmithKline's repurchases follow large acquisitions they made involving the issuance of new shares. SmithKline bought Beckman Instruments for $1 billion in stock. Coca-Cola bought Columbia Pictures for $692 million in cash and stock. By buying in their shares now, the two acquirers

Eugene R. Olson and Joseph L. Rose

DELUXE CHECK PRINTERS

■ *Selling a commodity—printing—in a world supposedly giving up checks, Deluxe nevertheless has flourished under Rose, 72 (right), chief executive until 1977, and Olson, 58, head man since. The company prints in 61 plants, fills better than 95% of orders in two days, and ships 99% error-free. Deluxe's market share of above 50%, Olson says, climbs slightly every year. He regards technology added a few years back as crucial: "We'd be out of capacity if we hadn't changed."*

are, in effect, using cash to undo their earlier use of stock.

A byproduct of repurchases is support for the stock—and some companies in this group have found self-help handy over the years. As the following story points out, this decade began in an aberrant era of very high price-earnings multiples for certain richly profitable companies. Among those bid up in price were Coca-Cola, Merck, American Home, IBM, Nalco, and Deluxe Check.

Then both the market and the multiples of these stocks collapsed. As a result, FORTUNE's 13, despite their superb profitability through the decade, did not collectively have a great time of it in the stock market. Their median total return to investors (stock appreciation plus reinvested dividends) was an annual rate of 13.4%, which is about one percentage point *below* the FORTUNE 500's median. The worst performer of the 13 was Coca-Cola, with a 2.9% annual total return; its price-earnings multiple dropped during the period from about 35 to 13. The star of stars was Worthington, which delivered an annual total return of 41.7%, the seventh-best record in the 500. Gaining a reputation as a corporate moneymaker, Worthington went from a multiple of 6 to a multiple of 21 during the decade. That was without help from stock repurchases, which Worthington has not elected to make.

What Worthington has been doing, however, is buying businesses, the most obvious alternative to shoving money out to the shareholders. But an acquisition strategy often is psychologically difficult for companies with high profitability: the prices they must pay almost inevitably present them with lower returns on the purchased properties than they are earning on their existing businesses. In many cases, if companies were to come to grips with the question of what makes sense, they would probably find it more rational to buy their own businesses, through repurchases of stock, than to pay up for new and often unfamiliar ones.

MANY OF THE COMPANIES on FORTUNE's list seem to have a general inkling that they have succeeded up to now because they didn't branch out into unfamiliar fields. Worley H. Clark, 51, chief executive of Nalco, states a theme articulated by others: "One of the good decisions we made in the last decade was to stay doing what we do best."

Still, the money keeps piling up and has to be deployed. Calling the move "substantially better than buying money-market instruments," Nalco has gone into partnership with a bank to form a leasing company. Worthington has mainly bought other steel processors, thereby expanding but also sticking to its knitting. Dover has very successfully acquired small metal-products companies that the typical 500 company would not bother with. Dow Jones has made a major commitment to cable TV. Maytag, after years of thinking about acquisitions, finally bought two kitchen range companies, Hardwick and Jenn-Air. Daniel J. Krumm, Maytag's chief executive, says he started out with firm financial criteria for acquisitions. "For one thing," he recalls, "I said I would never buy a company losing money. Then I bought Jenn-Air"—yes, a loser. Maytag has since moved the new business into the black.

As they ended their 1983 fiscal years, the 13 companies on FORTUNE's list were displaying various return-on-equity trends. Several companies earned their lowest return of the decade in 1983, hurt by the collapse of the Oil Patch (Mitchell and Dover), the slow pickup in steel (Worthington), or a dearth of important new products (Merck). On the other hand, American Home and IBM were at a peak for the decade.

So was Deluxe Check Printers, in some ways the wonder of the list. Through the decade, investors labeled Deluxe a buggy-whip company, threatened with extinction by the "checkless society." Yet the company's sales quadrupled in the decade. They were boosted both by gains in orders that averaged close to 7% a year and by price increases that customers accepted with equanimity, no doubt in part because many do not have a clue what they pay for checks.

Eugene R. Olson, chairman of Deluxe, says that the forecasters will probably be right someday: the use of checks will level off and then decline. "But we don't know when that's going to be, and I don't think anybody does. We're probably more in touch

John H. McConnell

WORTHINGTON INDUSTRIES

■ *Before starting Worthington in 1955, McConnell, now 60, worked for a while in an automobile plant, where he concluded unions and efficiency didn't mix. So the steel-processing business he built isn't unionized and workers at some companies he acquired have elected to go non-union. They've been lured by attendance bonuses paid in Worthington stock, participative management techniques, and large profit-sharing payments added to salaries (nobody gets hourly wages).*

with the subject of electronic funds transfer than anyone else in the country, and we're quite confident that the growth of checks will continue through the 1980s." The company keeps thinking about the check afterworld and has made small investments in other businesses. But Olson just doesn't sense an emergency: "We don't see anything happening that will be very sudden."

Some other companies on the list probably wish they could see the direction of things with as much certainty. "You tell me what's going to happen to the price of oil and gas," says George Mitchell, "and I'll tell you what's going to happen to this company." Kellogg has been brooding about recent losses in market share in cereals; the company has cut the price of its biggest seller, corn flakes, to meet competition from generics. Merck's chairman, John J. Horan, 63, states his conviction that the company's research is about to bear abundant fruit, though little in the drug industry can be certain.

That the technology revolution lives is not a matter of similar doubt, nor is IBM's central position in it; the company is absolutely aswirl these days with new products and services. Riding technology at a different level, Dow Jones has made itself a leader in information retrieval services. Its chief executive, Warren H. Phillips, 57, suspects that the technology revolution could turn out to be a historical watershed much more important than the invention of the printing press or the Industrial Revolution.

The spirit of that thought seems also to be influencing Roberto C. Goizueta, 52, chairman of Coca-Cola: "I think the next ten years are going to be much more an age of uncertainty than the last ten. Managements are going to have to be very flexible and action-oriented. They won't have the luxury to cross all the t's and dot the i's. The world is going to pass you by if you try to do that." Suiting up for action, Goizueta plans to raise Coca-Cola's debt ratio and reduce its dividend payout. The added leverage will work to increase Coke's return on equity. The lower payout will build equity and reduce the return unless Coke manages to invest the added retained earnings at high rates. The company's recent record on that front isn't great. Coke has earned poor returns on its purchase of Columbia Pictures. Goizueta says he's nevertheless delighted to have Columbia and wants more acquisitions.

George P. Mitchell

MITCHELL ENERGY & DEVELOPMENT

■ *Named the "most admired" crude-oil company in a recent FORTUNE survey, Mitchell began as a wildcatter in the 1940s. Founder George Mitchell, 64, is the son of a Greek immigrant who changed his name from Sava Paraskivopoulis to Mike Mitchell. He owns 62% of the stock, a big enough block to bar a takeover. Mitchell expects the oil giants buying up others to cool their bidding for leases: "I worry about a decline in drilling—but I won't have as much competition."*

IT IS INTERESTING to speculate how many of these same 13 companies might average a return on equity of above 20% over the next decade, while never dipping below 15%. Anyone betting against American Home will have to ignore a lot of history. Anyone thinking about Deluxe will have to wonder whether it might not just crack its buggy whip right through another decade. One executive who thinks he understands his company's prospects is Frank T. Cary, chairman of the executive committee of IBM. Asked what he thinks the probabilities are that IBM will meet the list's statistical tests over the next decade, he shoots back: "100%."

Picking the next decade's 20% stars could be lucrative for investors. You cannot buy these 13 companies at book value or close to it; they earn too splendidly for that. But the stocks of many of the companies are relatively low today—certainly in relation to what they sold for in 1973. The median stock among these 13 was then selling at more than four times book value. In early April of this year, the median was 2.7 times book. SmithKline had the lowest valuation, about two times book, and Dow Jones the highest, nearly six times book. At least some of today's prices are not a lot to pay for ever-compounding 20% savings accounts—if only one could foretell which corporations would keep on holding out that offer.

INVESTMENT LESSONS FROM THE DECADE

Stay away from faddish stocks with price-earnings multiples beyond reason. Bottom-fish for underrated companies that appear ripe for turnaround or takeover at bloated prices. Keep an eye out for excellent businesses under temporary clouds. ■ *by Edward C. Baig*

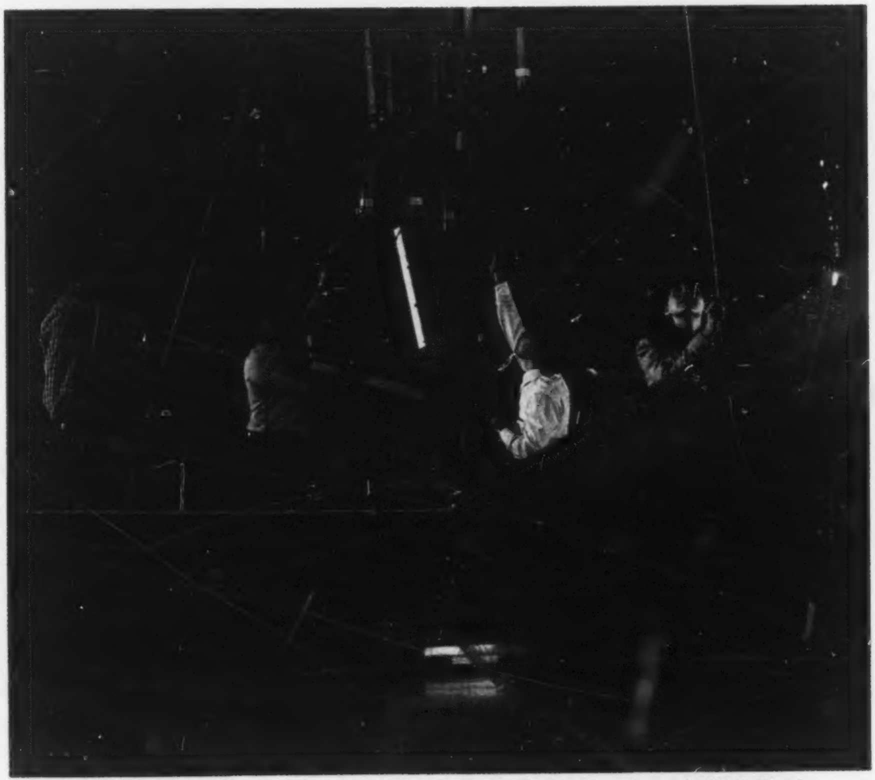
THE PAST DECADE was especially cruel to investors in some FORTUNE 500 companies—but surprisingly kind to those who bet on others. Which investing strategies proved superior? And what does the record suggest about investment strategies for the future?

Investors in general had a tough time in the ten years through 1983. In nominal terms, practically anyone could have made money. Starting from 850 on the final trading day of 1973, the Dow Jones industrial average plunged to 587 in December 1974 but wound up at 1259 last December 30. (By early April the average was down to 1149.) In inflation-adjusted terms, however, the Dow actually dropped 33% during the decade. Only by reinvesting all dividends could one have increased a nest egg's real value. The total return—price appreciation plus reinvested dividends—on Standard & Poor's 500-stock index averaged 10.5% a year, beating the 8% average annual rate of inflation.

But some investors would have made a killing by following a simple "contrarian" strategy: holding stocks of companies with the lowest performance standings among the FORTUNE 500 industrial corporations at the end of 1973. Many of these companies subsequently turned around and enjoyed a stock market surge, or were acquired by other companies at inflated prices. The worst investment strategy for the decade: holding the stocks most in vogue in 1973, which were selling at exalted price-earnings multiples. These stocks climbed slowly during the ten years, if at all. (For what analysts think about the FORTUNE 500 stocks today, see Personal Investing.)

To test different investment strategies, FORTUNE turned back the clock and constructed eight portfolios of stocks from the FORTUNE 500 of ten years ago. Each of the portfolios contained 25 companies—the 25 top-ranked companies in four categories and the 25 lowest-ranked companies in the same four categories. The categories were: (1) return on sales in 1973, (2) return on shareholders' equity in 1973, (3) earnings-per-share growth from the end of 1963 through 1973, and (4) total return to investors from 1963 through 1973. Once the portfolios were assembled, FORTUNE measured their performance from January 2, 1974, to December 30, 1983.

The yardstick for measuring which portfo-



A gold mine *for investors, Lockheed stock rose 37-fold in the ten years through 1983. At this California plant, Lockheed workers are building part of a space satellite.*

PHOTOGRAPH BY MARK TUSHMAN

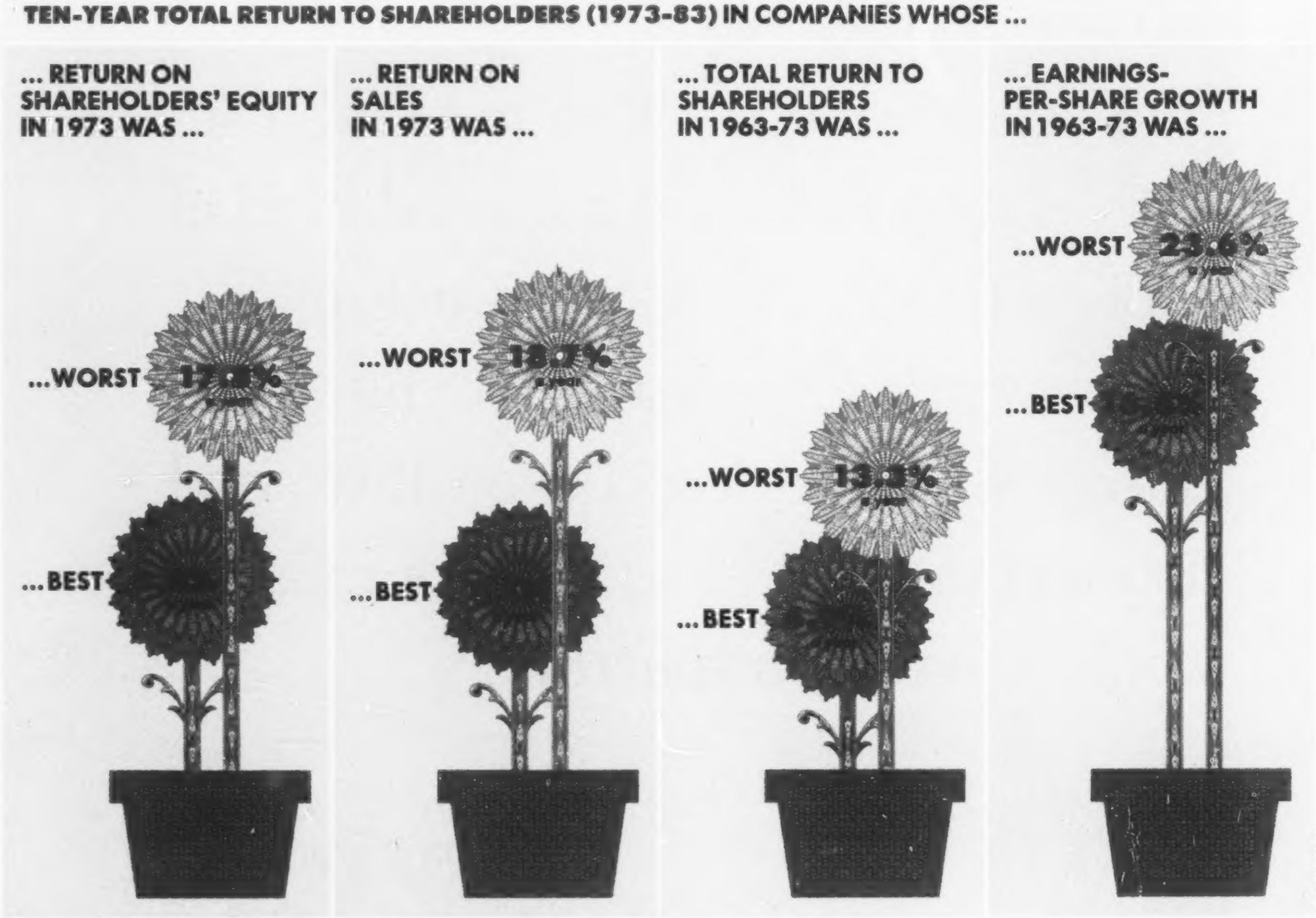
lio gave investors the best ride for their money was the median annual total return of a portfolio's stocks for the ten years. Some stocks didn't trade for the whole period because the companies disappeared in mergers. In those instances, the total return on the shares was measured for the period when the company was traded.

The startling discovery that emerges from this exercise is that in every category, the bottom-ranked companies in 1973 did better for shareholders over the next ten years than the top-ranked companies (see chart). The champion portfolio, by a wide margin, consisted of 25 companies with the lowest earnings-per-share growth from 1963 through 1973. This group's median total return was 23.6% a year—easily beating the 25 companies that had ranked tops in earnings-per-share growth from 1963 through 1973. Another bad-news bunch, companies with the lowest return on sales in 1973, provided good investment news with a median total return of 18.7%. Companies with the lowest return on shareholders' equity in 1973 returned 17.8% a year to investors in the following decade. Companies with the lowest total return to investors from 1963 through 1973 managed a median annual return of 13.3% over the next ten years. All the loser groups handily beat the S&P 500.

What accounts for these topsy-turvy results? One hypothesis is that the top-performing companies of 1973 were overpriced in the stock market at that time and therefore had little room to rise during the following decade. For example, look at the 25 stocks that posted the highest total return to shareholders. Their total return for the next ten years was a mere 6.9% annually. Many companies in this group, paragons of profitability and growth, entered the ten-year period with their stocks far overpriced in what was called a two-tier market.

Institutional buyers, who dominated trading in the early 1970s, concentrated their investments in these companies' stocks,

RESEARCH ASSOCIATE *Paulette Thibault Welles*



WILLIAM REDUTO

How the Worst Companies Paid Off for Shareholders

FORTUNE 500 companies with the best performance rankings ten years ago suffered stunted stock growth over the following decade, while the worst-ranked companies blossomed for investors. FORTUNE looked at the total return—stock price appreciation plus reinvested dividends—for the 25 companies that ranked best and worst by each of the yardsticks above. The percentage figures are the median returns to shareholders for each category. The group with the worst performers in earnings per share from 1963 through 1973 was the biggest winner over the following decade.

known as the Nifty Fifty (or the top tier), while virtually ignoring hundreds of others (the bottom tier). "It was *the* thing in the investment industry to load up on what were called one-decision stocks," recalls William J. Gillard, a vice president of the brokerage firm of Kidder Peabody. "'One decision' meant that you bought them and never did anything else."

The mania for these stocks fed on itself, with price appreciation boosting their total return and making them look even more appealing. The market schism widened, with elite stocks selling at P/E multiples many times those of the pariahs. All this rendered the Nifty Fifty vulnerable to a fall, which began in the summer of 1973. But even by year-end, the starting point for FORTUNE's study, most of these stocks were still priced beyond reason, as FORTUNE observed (see "How the Terrible Two-Tier Market Came to Wall Street," July 1973).

These high-priced stocks are most heavily represented in FORTUNE's portfolio of companies that had the highest total return to investors from 1963 through 1973. Among them is Baxter Travenol Laboratories, a medical products and services company, which at the end of 1973 sold for 51 times earnings. Johnson & Johnson, also in this portfolio, gloried in a P/E of 45, while Schering-Plough, the drug company, had a multiple of 37. The median P/E for the portfolio was 26—the highest of any group—vs. a pathetic 5 for companies that had scored the poorest total returns in the previous decade.

DURING THE ENSUING ten years, many favored companies continued to prosper as Wall Street had anticipated. But as the market shifted back to one tier and the price schism narrowed, their stocks were slowpokes at best. Travenol's P/E, though still above average, shriveled to 15 by the end of 1983, and the stock declined slightly over the decade. Thanks to dividends alone, investors' total return over the ten years was 7.7% a year. Johnson & Johnson's stock, whose multiple also remains above the market's despite a rash of bad news over the past year or so, has been a bigger disappointment; its total return over the decade was a mere 2.8% a year. Schering-Plough's stock fell, and investors suffered a negative annual return of 2.9%. Stocks that had once performed best, in short, were poison for investors.

Why did the previous decade's earnings-per-share scrub team provide such a windfall? The market may have dumped on it excessively in 1973: its median P/E multiple was 5. Several companies, it turned out, were on the verge of turnarounds that would catch investors' notice and pump up their multiples.

No company revived more dramatically

than Lockheed, which pops up in this and two other portfolios of losers. At the beginning of the period studied, a federal loan guarantee had staved off bankruptcy. But, recalls a market analyst, the aerospace company was "flat on its ass—the company was so far down it had no market value." Then the company came roaring back, its stock shooting up during the decade from $1.08 a share to $40. Investors enjoyed a total return of 43.5% a year—the best of any company in FORTUNE's study that's still publicly traded.

The loser portfolios of 1973 are also heavily dotted with companies that got bought up at bloated prices during the decade. No portfolios lost more companies through takeovers than the earnings-per-share laggards and the return-on-sales losers; ten of the 25 in each group were acquired. While mergers often turned out badly for the acquirer (see story on page 262), shareholders in the acquired corporation frequently cleaned up. That happened with Interstate Brands, a baker whose earnings fell 23% a year in the 1963-73 decade. DPF Inc., now Interstate Bakeries, bought most of the company by 1977, and investors who had held the stock since 1973 wound up with a scrumptious total return of 50.4% a year—the highest of any company in the eight portfolios.

The portfolio that placed a close third, 1973's worst actors when it came to return on equity, was sprinkled with another kind of investment that paid off big—a flourishing company suffering a temporary setback. Pitney Bowes, the venerable king of postage meters, decided in 1973 to write off its electronic cash register business. That put the company in the red for the first time in history, and the stock was way off at the end of 1973. An investor willing to overlook Pitney Bowes's woes and buy in would have had a 29.8% yearly return as earnings resumed their climb and the stock emerged from the doghouse.

THE RECORD OF THE 500 over the decade lends support to some respected theories of investing. One is to buy on the bad news—with care. "Where I have made a lot of money," says one successful private investor, "is in a situation where a marvelous business is put under an enormous cloud. But that cloud does not destroy the essence of that marvelous business."

Most investors lack the time and perseverance to pinpoint such companies. For them, the last ten years suggest, the best approach is to scatter their money broadly among out-of-favor companies with low P/Es. Bottom-fishing often turns up a disproportionate number of undervalued companies ripe for takeover or turnaround.

A general rule that cries out from the decade's experience is to avoid companies with stratospheric P/Es. Burton G. Malkiel, dean of the Yale School of Management, likes this rule's flip side: go after P/Es closer to ground level. The only problem, he says, is that if all investors chased low P/E stocks, the strategy would pay off for nobody. A somewhat qualified believer in the efficient market—"I'm a random walker with a crutch," he says—Malkiel figures that no good investing information or idea stays overlooked for long. Even so, a universal swing to low P/Es doesn't seem imminent. Investors who want the current lists of laggards can turn to "Who Did Best and Worst Among the 500" (page 296). F

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THE PRINCES OF PRODUCTIVITY

In the crucible of a trying decade, the FORTUNE 500 shrank their work forces and learned how to generate more sales with fewer employees. Will these stripped-down companies become big job providers once again? If good times continue, yes.

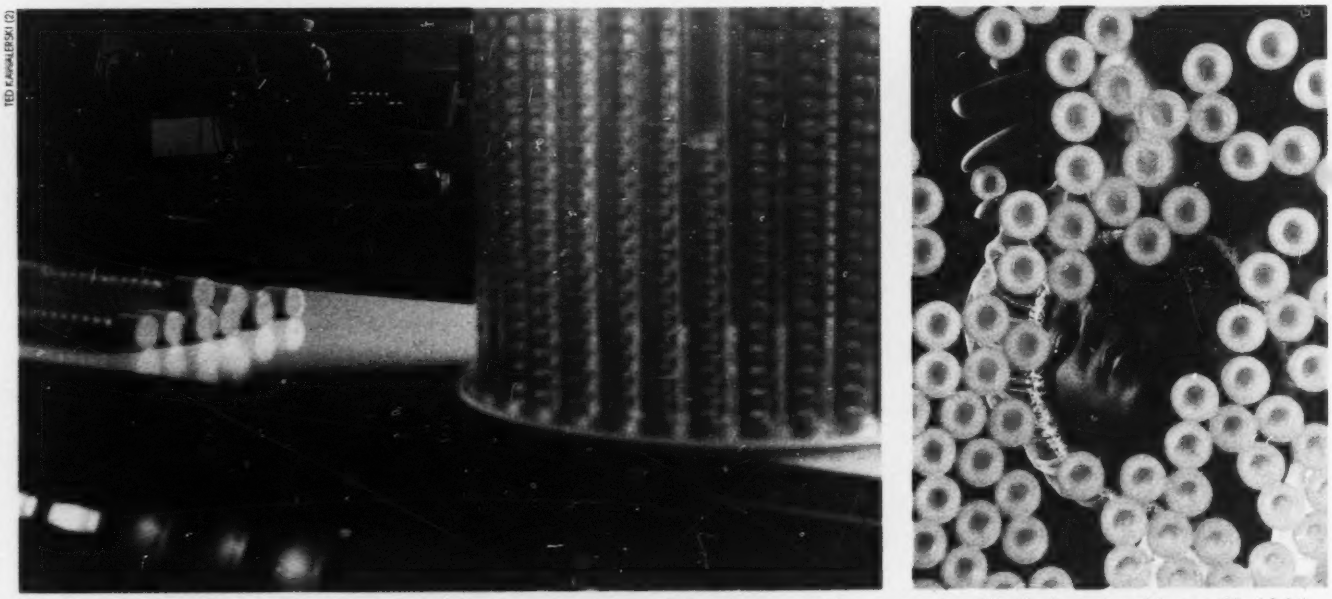
■ *by Peter Nulty*

THREE RECESSIONS, Asian competition, horrific cost inflation, and sales that grew barely faster than inflation put the FORTUNE 500 under pressure to retrench during the last ten years. Retrench they did, cutting employment 10%, from 15.5 million to 14 million. That was quite a turnabout from the hiring spree of the previous decade, when the largest industrial corporations boosted their work forces by more than half.

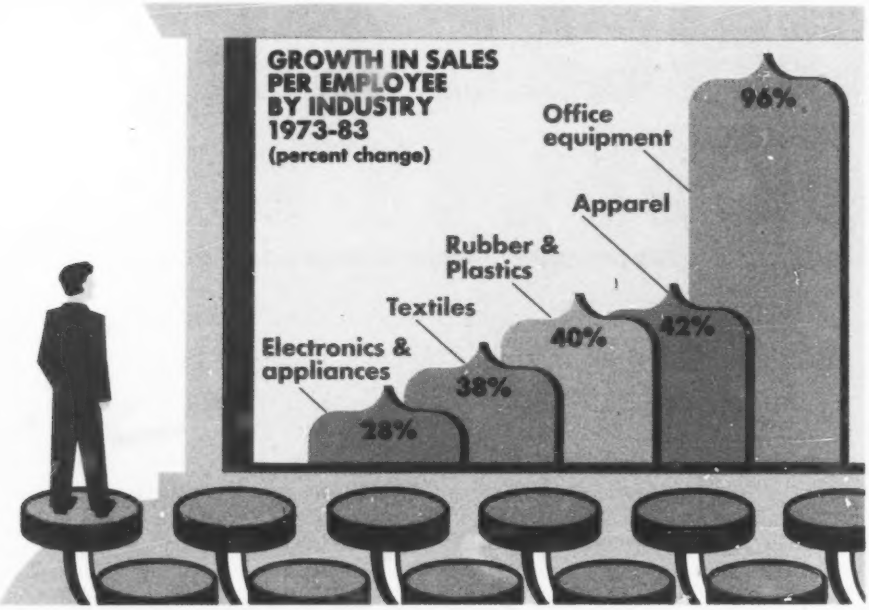
A sign of senescence? Some might conclude that the 500's days as creators of jobs and engines of economic growth are finished, particularly in the rust-bowl industries prominent on FORTUNE's list. They might also argue that government should step in to prop up declining industries or aim incentives at small emerging enterprises that are the main source of new jobs. Such broodings would ignore the bright side: that the 500 became leaner and more competitive over the decade and are therefore in better shape to hire as the economy grows. With orders climbing, many of the most slimmed-down companies are once more taking on workers, and job prospects look good.

One way to judge how lean the 500 have become is to examine what's happened to sales per employee, a rough measure of productivity. Sales per employee rose 11.5% over the last decade, after adjustment for inflation in the prices of manufactured goods. But some of the 27 industries on the 500 did spectacularly better than that. FORTUNE measured the changes in sales per employee, based on the median company in each industry, and adjusted for price increases in each industry's products over the ten years. (The decade's inflation ranged from a low of 43% in the office equipment business to a high of 530% in oil.) The top performers in sales growth per employee were office equipment, apparel, rubber and plastics, textiles, and electronics and appliances. The booby prize goes to oil production. Employment exploded as oil companies stepped up domestic exploration in the wake of OPEC's

TED KAWALERSKI (2)



With output quadrupled *at its contact-lens machines (left), Bausch & Lomb plans to hire more workers like the inspector of lens molds (right).*



ANDERS WENNGREN

Ringing Up More Wares per Worker

Five industries in the FORTUNE *500 set the pace over the past decade in boosting sales per employee. The office equipment and apparel industries added workers; the other three eliminated nearly half a million jobs. Most companies in these industries have lately been adding workers.*

price hikes; inflation-adjusted sales per employee declined by 55%.

The 500 cranked up their sales per employee in several ways. Some lopped off inefficient, labor-intensive product lines or expanded into more capital-intensive businesses. Others turned to outside sources for more parts and services, in some cases creating employment at smaller companies. They also got more out of their workers in the operations they kept.

The winning industry—office equipment, including computers—leaped 96% in median sales per employee. The champ of the office equipment companies on this year's 500 list is Control Data, whose sales per employee zoomed a spectacular 170% over the decade. George Troy, Control Data's efficiency honcho, says hundreds of little economies, rather than a few dramatic changes, accounted for the improvement. The company has adopted quality circles and process flow analysis, a technique for uncovering bottlenecks. Two years ago executives identified 56 steps in the process of delivering computers to customers, eliminated 12 of them, and have saved $800,000 so far. All told, process flow analysis has saved $13.6 million in two years.

RESEARCH ASSOCIATE *Rachael Grossman*

A surprise runner-up is the relatively mature, labor-intensive apparel industry, whose sales per employee climbed 42% over the decade. Palm Beach of Cincinnati is at the top of the rack with a 115% improvement. The company has expanded from men's suits into women's wear, and because women's fashions are short-lived, it contracts most production to other manufacturers in the U.S. and overseas. This adds a lot to sales and little to Palm Beach's work force. In its own plants Palm Beach has installed computer-controlled machines that have boosted the output of workers in the pattern-drawing departments 250%.

CLOSE BEHIND apparel is the rubber and plastics business, with a 40% increase in median sales per employee. Plastics are showing more bounce in productivity than rubber. The pacesetter is Dorsey Corp., with a 60% improvement achieved mainly by getting out of glass bottle manufacturing and into less labor-intensive plastic bottle making. The top performer among old-line rubber companies is B.F. Goodrich, whose sales per employee rose 51% in the ten years through 1983. Goodrich has sold off nine sizable labor-intensive operations, including a rubber plantation in Liberia and a tire plant in Holland, and has streamlined its tire distribution system. Goodrich has also pushed more heavily into chemicals, where sales per employee run more than twice the company average.

The textile industry has made strides by doing better what it has always done. Thanks to improvements in one of the industrial revolution's founding technologies, the automatic loom, the industry is weaving faster than ever. Median sales per employee in textiles grew 38% in the last decade, led by West Point-Pepperell with a 44% rise. A newfangled loom gets credit for most of the gains. Threaded bullets shoot back and forth, eliminating the traditional shuttle and speeding production as much as 200%. One worker can tend 30 of the new looms, compared with ten of the old variety.

Top honors in the electronics and appliances industry go to National Semiconductor, the chipmaker, which has slashed costs by reducing the number of defective chips from 8,000 per million to 150 per million. It has led the chip industry's switch to producing semiconductors more efficiently on silicon wafers five inches in diameter rather than four inches. Five-inch wafers hold up to 15,000 chips, 60% more than four-inch wafers. Through these and other steps, the company lifted sales per employee 94% in the decade vs. 28% for the industry.

Even in industries of mediocre performance, some exemplary companies shine like beacons. The measuring, scientific, and photographic equipment industry, for example, managed only an 11% increase in sales per employee over the ten years. But a pacesetter in the group was Bausch & Lomb, which has bet heavily on the highly automated technology of spin-casting soft contact lenses. Bausch & Lomb claims to have the lowest production cost in the industry by far. The company has also exited from the labor-intensive eyeglass business. Bausch & Lomb's sales per employee leaped 65% in the last ten years.

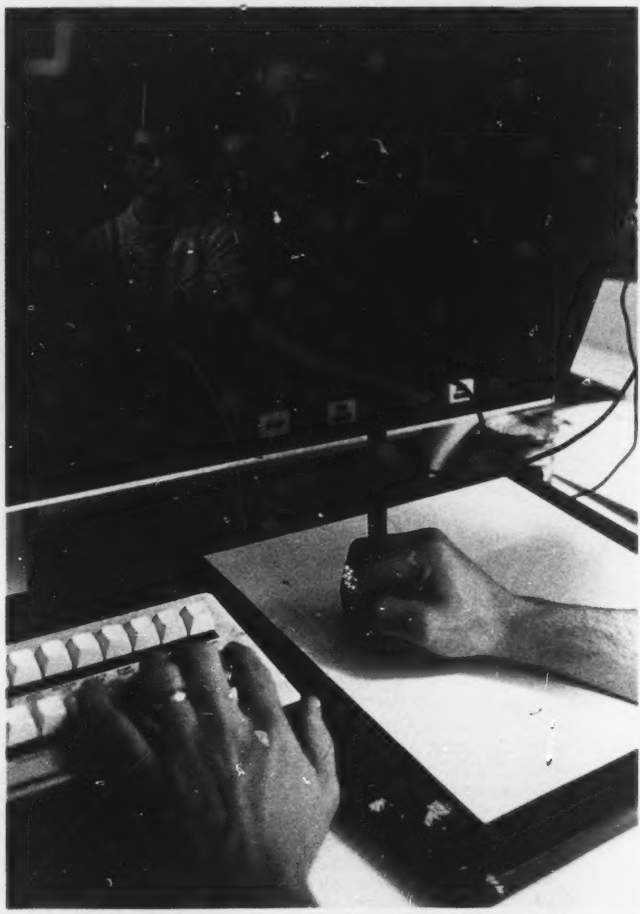
The auto and automotive parts industry has also had its standout performers. Chrysler was the top achiever with an 89% gain, far above the lackluster 5% improvement for the whole group. Chrysler today has only one-third as many employees as ten years ago. Most cuts came in the three years after 1979, when the company was near bankruptcy. Annual car production per worker has jumped from ten to 15. George Butts, Chrysler's vice president of quality and productivity, says much of the gain derives from improving the quality of Chrysler's cars, which results in less waste in production.

THE RUNNER-UP in the auto industry is Echlin, a producer of electronic and other parts for cars and trucks. Echlin, which has improved sales per employee 69%, has developed a $250,000 machine for assembling electronic circuit boards. The seven people who operate it turn out as many parts as 144 people used to. Echlin improved its showing another way, by acquiring a parts distribution subsidiary from Borg-Warner. This has added about $70 million a year to sales but only 900 people to the personnel rolls.

Some companies are scoring such productivity gains that they don't need any more hands these days. Control Data expects to double its volume in 1984 with the same work force, and Goodrich isn't hiring. Bausch & Lomb, on the other hand, expects to add 200 workers during the next few years. West Point-Pepperell has slowly been adding to its rolls. Palm Beach has been hiring for the past six months and expects to continue. Booming Chrysler has added 16,000 workers since January 1983 and expects to keep hiring. National Semiconductor, straining to keep up with torrid chip sales, has boosted its work force 25% worldwide in the past 12 months. By the end of this year, it says, employment will be up another 25%.

Cost-cutting is a sign of vigor and survival power, and the 500 appear to have plenty of both. During the next ten years they will go right on hiring, especially if the economy grows at a healthy clip, corporate profits strengthen, and a declining dollar enables U.S. manufacturers to win back markets lost at home and abroad. Given these prospects, government programs to prop up companies in struggling industries shouldn't be necessary. They'd slow the movement of workers from declining to expanding industries. They'd also take the pressure off ailing enterprises to sharpen their mettle.

U.S. manufacturing employment is already up 7.3% from the pit of the 1982 recession, to 19.6 million in March. Though some economists consider the forecast overly bullish, the Bureau of Labor Statistics predicts that manufacturing, instead of lagging behind the economy as it has in the past ten years, will keep pace and add as many as three million jobs by 1990. Industry's challenge, as it hires, will be to stay muscular. ■



RICHARD HOWARD (2)

Productivity jumped 250% *when Palm Beach, the clothing manufacturer, installed computer-controlled marker machines like the one above. A computer instructs a mechanical plotter to draw patterns for suit parts on paper, adjusting automatically for different size suits. At one of the computer's work stations (right), draftsmen direct the placement of drawings on the paper to minimize the amount of material needed.*

THE DECADE'S WORST MERGERS

When Wall Street analysts and acquisition specialists are asked to name the biggest disasters, they point to seven. Bad luck marred some combinations; overborrowing and underanalyzing crippled others. Oil companies were atrocious acquirers.

■ *by Anne B. Fisher*

A bleak symbol of an ill-fated merger, *Anaconda's copper mine in Butte, Montana, was closed last year. Atlantic Richfield paid $700 million for*

A RECORD-BREAKING SUM, about $398 billion, was spent by U.S. corporations in the last decade on mergers and acquisitions. In all, some 23,000 deals were sealed, including 82 in which FORTUNE 500 companies were swallowed up. This has made good reading—all those raiders and white knights, the secret phone calls, the frenetic shuttling back and forth. But are mergers good for much else?

Of course. For one thing, there really can be synergy, that magical chemistry that causes one plus one to add up to three. It can take many forms: two companies combined produce a better product or service than anything they could turn out separately, or find a fit that makes the two operations more efficient or productive. (For a few such mergers, see page 270.) But some combinations don't seem to benefit anyone except the shareholders who sell out at puffed-up prices; they leave investors in the acquiring company puzzling over what hit them.

Anaconda, which no longer produces copper.

For a look at the worst big acquisitions of the decade and why they went wrong, FORTUNE surveyed more than three dozen merger and acquisition specialists and security analysts. When asked which mergers were worst for the acquiring company's shareholders, the financial people kept coming up with the seven in the table on page 266. Four acquirers, all oil companies, were FORTUNE 500 industrial corporations: Exxon, Standard Oil (Ohio), Atlantic Richfield, and Mobil. The three other acquirers hail from the FORTUNE Service 500 list of the largest U.S. nonindustrial companies. They include two, Baldwin-United and Wickes Cos., that have filed for bankruptcy since their mergers, and a third, Pan American World Airways, that has barely escaped that fate.

Five of the seven acquired companies are money losers. The two exceptions, Marcor (acquired by Mobil) and Gamble-Skogmo (Wickes), have been unprofitable for several years but were helped into the black last year by the surge in consumer spending. FORTUNE estimates that in five cases—all those for which calculations could be made—the earnings per share of the acquiring company would be higher if management had skipped the merger and invested the purchase price in its own stock. Some acquisitions were afflicted with bad luck and high interest rates, and the tooth-rattling recession of 1981 didn't help. But lessons from the seven combinations suggest three rules: (1) think twice before investing hard-earned cash in unfamiliar businesses, (2) beware of overborrowing, and (3) don't be seduced by the synergy argument without making a thorough analysis.

The oil leviathans' blunders, about which their executives now decline to comment, resulted mostly from violating rule No. 1. Fearful of federal regulation of their industry and laden with cash, oil executives itched to diversify. Two companies, Atlantic Richfield and Standard Oil (Ohio), made the mistake of branching out into copper. The business involves two things oilmen know something about: exploration and getting resources out of the ground. But the similarity ends when it comes to prices. Until early 1983 oil prices were mostly a one-way street, uphill, while the copper market is a roller coaster. When Atlantic Richfield bought Anaconda in 1977, the price of copper was 66 cents a pound and the mining company was barely profitable. But that only meant Arco could snatch it up at less than book value, glean tax benefits to boot, and invest a few million to help develop Anaconda's mines. Sohio, in buying Kennecott in 1981, had a similar scheme in mind. By that time copper's price had risen to 85 cents a pound, but Kennecott's ore was so expensive to mine that it was losing money.

What neither oil company foresaw was how far copper's price could fall. The 1982 recession crushed demand for the metal, a staple in the production of houses and cars. But supply, bloated by African and South American output, kept right on rising. Last year the price fell to 65 cents a pound, its lowest since World War II. Both Arco and Sohio have plowed hundreds of millions of dollars, on top of the purchase prices, into their besieged acquirees, and neither parent has yet produced a penny of profit. Had Arco stayed out of the copper pits, FORTUNE estimates its 1983 earnings per share would be almost 25% higher than they were in 1983. Kennecott's losses cost Sohio even more—$1.87 a share on earnings of $6.14.

Mobil's dry hole was retailing. Marcor, the $4-billion-a-year parent of Montgomery Ward and Container Corp. of America, attracted Mobil ten years ago. The steady profitability of Ward's credit operation was one enticement, but rising interest rates in the 1970s clobbered that business. Like other retailers, Montgomery Ward was borrowing money at higher rates than credit customers were paying, and since 1980 Mobil has spent $609 million to make up the difference. In 1983 Montgomery Ward showed earnings for the first time since 1979, but Mobil shareholders have scant cause for celebration. FORTUNE estimates the company's 1983 earnings are lower by 39% than they would have been if Mobil had eschewed shopping malls and stuck to the oil patch.

EXXON'S BLUNDER with Reliance Electric is especially embarrassing since no one could construct a bad-luck alibi to explain it. At the time, some thought the purchase was inspired. Exxon believed it had a device in its labs that would raise the efficiency of most electric motors enough to cut a million barrels per day from U.S. oil consumption by 1990. After oil prices nearly doubled in 1979, the device, called an alternating-current synthesizer, looked as promising as a Prudhoe Bay gusher. So Exxon forked over $1.2 billion for Reliance—twice the electrical equipment maker's market value—believing it could successfully mass-produce the gadget.

The deal had all the earmarks of synergy at its best. But Exxon overlooked a few essential details. For one thing, nobody knew, or tried very hard to find out, whether Reliance could manufacture the synthesizer cheaply enough to make a profit. Other companies had developed similar devices, all too expensive to be marketed on the scale the

RESEARCH ASSOCIATE *Ann Dransfield*

PHOTOGRAPH BY LAURANCE B. AIUPPY

oilmen envisioned. Nor was cost the only unknown. While Exxon was negotiating to buy the company, Reliance purchased Federal Pacific Electric Co., an electrical manufacturer that turned out to have been cheating for years on Underwriters' Laboratories tests of its circuit breakers.

The magical motor controller, too costly to produce, was scrapped in 1981. A nightmarish tangle of lawsuits and product recalls at Federal Pacific has meanwhile cost Reliance—and by extension Exxon—tens of millions. Reliance's net losses, $6 million in 1980, were $58 million in 1983. By FORTUNE's estimates, the acquisition knocked Exxon's per-share earnings down by 39 cents—about 6% below where they might have been—last year. Only its huge size saved Exxon from greater suffering.

Another merger, Pan Am's takeover of National Airlines in early 1980, was envisioned as synergistic because it held the promise of better service for air travelers. The two airlines served many of the same airports, but Pan Am had almost no domestic routes and National had few foreign ones. If a passenger wanted to fly from Houston to Paris via New York, for instance, he had the hassle of changing terminals at Kennedy Airport. A merger, Pan Am Chairman William Seawell reasoned, would enable Pan Am to take a passenger the whole distance—and not incidentally pocket the whole fare. Pan Am had hankered after domestic routes since 1946, but the Civil Aeronautics Board had turned down every request. With airline deregulation taking off, the CAB approved Pan Am's bid for National.

The irony is that under deregulation, Pan Am could have got domestic routes without the turbulence that came with National. The trouble started in mid-1980, when Pan Am's employees balked at sharing a new labor contract with National's. Ill feeling among the workers sent morale, and service, skidding. By mid-1981, admits a Pan Am executive, "we had gained a bad reputation in the marketplace. And once you make consumers mad enough, it's hard to get them back." That's especially true in a recession.

The worst part was that Pan Am's troubles so distracted management that it didn't reshuffle domestic routes to feed the overseas flights—the whole idea behind the merger in the first place. Chairman Edward Acker, who came aboard after the merger, finally arranged the feeder traffic in mid-1982. Pan Am's domestic and international flights now connect, but it hasn't shown a full year's net profit since the merger.

Wickes's decision to buy Gamble-Skogmo was also based on a sensible-sounding premise. Wickes was the largest U.S. retailer of lumber and building supplies, with annual sales of $2 billion. Bothered by the cyclicality of the business, then Chairman E. M. McNeely set out to merge with a retailer whose sales were less dependent on housing. Homebuilding was in a sharp decline in

ACQUIRING COMPANY (Date of acquisition) ACQUIRED COMPANY	PRICE	BUSINESS	ACQUIRER'S 1983 AFTER-TAX PROFITS ACQUIRED COMPANY'S CONTRIBUTION (Est.)	ACQUIRER'S '83 EARNINGS PER SHARE	
				ACTUAL	IF ACQUISITION HADN'T OCCURRED (Est.)
Mobil (1974, 1976) **Marcor**	$1.86 billion in cash, notes, and common stock	Oil and gas Retail stores, paper packaging	**$1.5 billion** **$41 million**	**$3.70**	**$6.12**
Sohio (1981) **Kennecott**	$1.77 billion in cash	Oil and gas Copper and metal products	**$1.51 billion** **$136 million loss**	**$6.14**	**$8.01**
Exxon (1979) **Reliance Electric**	$1.24 billion in cash	Oil and gas Electric equipment	**$4.98 billion** **$58 million loss**	**$5.78**	**$6.17**
Baldwin-United (1982) **MGIC**	$1.16 billion in cash	Financial services Insurance and real estate	**$673 million loss[1]** **$148 million loss[1]**	**$32.28 loss[1]**	**Not calculable**
Atlantic Richfield (1977) **Anaconda**	$700 million in cash and common stock	Oil and gas Copper and minerals	**$1.55 billion** **$155 million loss**	**$6.03**	**$7.51**
Pan Am (1980) **National**	$400 million in cash	International airline Domestic airline	**$51 million loss** **Not calculable**	**$0.58 loss**	**Not calculable**
Wickes (1980) **Gamble-Skogmo**	$193 million in cash and common stock	Retailing and manufacturing Department and specialty stores	**$25 million** **$5 million**	**$1.72**	**$10.86**

[1] Earnings through third quarter

Seven Unlucky Mergers: Suppose They Hadn't Happened

To check out the mergers Wall Streeters call the decade's worst, FORTUNE estimated what each acquiring company would have earned in 1983 had the deals above not occurred. The exercise assumes that the dollar value of each acquisition had instead been used by the acquirer at the time to buy its own stock at the market price. This would have reduced the company's outstanding shares, increasing per-share earnings. The calculation also eliminates from the acquirer's books profits or losses of the acquired company. In every case calculated, the acquiring company's earnings would have been higher if the deal hadn't taken place. Hypothetical earnings for Baldwin-United can't be figured this way because the market value of Baldwin's stock was $601 million, far less than it spent for MGIC. What Pan Am would have earned without National can't be estimated because the two route structures have been merged. The dates given for Mobil's acquisition of Marcor reflect a two-stage purchase.

1980 when McNeely purchased Gamble-Skogmo, also a $2-billion-a-year retailer, which owned toy stores, supermarkets, drugstores, and a couple of clothing chains. The problem was that Wickes couldn't afford the deal. Gamble-Skogmo was nearly $1 billion in debt, and Wickes not only took that on, but also borrowed $125 million to finance the merger.

McNeely apparently hoped to sell off some of Gamble-Skogmo's stores to help pay down the debt, but in the 1981 recession he found no takers. The recession also squashed sales. By late 1981 cash was so tight that hundreds of suppliers stopped delivering goods to both Wickes and Gamble-Skogmo stores. By the time McNeely took early retirement in March 1982, Wickes had lost $400 million in 15 months and was barely meeting its payroll, let alone interest payments. The company went into Chapter 11 a month later. Wickes now has an agreement with creditors that should take it out of the woods by next fall, but the stock, which sold as high as $17 a share in 1981, was recently trading at $4.

Shareholders weren't the only investors hurt by Baldwin-United Corp.'s stumble into insolvency. While the company's stock has plunged from its high of $50 a share in 1982 to $2 recently, thousands of middle-income savers who paid an average of $23,000 each for Baldwin's hot product, the single-premium deferred annuity, have no guarantee they'll ever see all their principal again.

Former President Morley Thompson's 1981 purchase of Mortgage Guaranty Insurance Corp., the largest home-mortgage insurer in the U.S., brought the roof down. Baldwin ran up nearly $1 billion in short-term debt, mostly to finance the $1.2-billion purchase—and then couldn't pay it. It is small comfort that creditors and regulators picking over Baldwin-United's carcass see MGIC as the meatiest morsel there.

If all these tales of mergers run amok give acquisitive managers pause, they should. Michael Seely, president of Investor Access Corp., a New York consulting firm that studies mergers, contends that in the past decade only one-third of all mergers have enriched the acquirer's shareholders, one-third have been a wash, and one-third have ended up costing investors money—sometimes lots of it. While it may be fun to read about chief executives with the moxie to make big bets, Seely's analysis suggests that the fainthearted can do just as well by investors.

MERGERS THAT WORKED

■ *A sampling of mergers in the past decade that produced benefits the merged companies could not have attained separately:*

▶ **LTV/Lykes.** When this merger was announced in 1977, steel industry analysts were aghast. Lykes, a New Orleans holding company that owned Youngstown Sheet & Tube, seemed headed for bankruptcy. Jones & Laughlin, LTV's steelmaking unit, made a small profit in 1977, but LTV as a whole lost $53 million. Yet LTV paid $188 million for Lykes—and assumed its $659 million in debt. Declared one Wall Street observer: "This isn't a merger, it's a suicide pact."

What the doubters didn't see—and J&L President Thomas Graham, who is now at U.S. Steel, did—was that by combining some facilities and closing less efficient ones, J&L could pare shipping, labor, and other costs. In 1979, just after it absorbed Youngstown, J&L needed 6.9 man-hours to turn out a ton of steel. By year-end 1983, the figure had been whittled to 4.5, below the industry's five man-hour average. J&L has been losing money again lately—$200 million last year. But analysts think that without the merger's efficiencies the company would be in deeper trouble. They also note that Continental Emsco, a Lykes unit that makes oil drilling equipment, made enough money in the three years following the acquisition to pay back LTV's entire purchase price. LTV, now buying Republic Steel, hopes synergy strikes twice.

▶ **United Technologies/Otis Elevator and Carrier.** It wasn't clear what United Technologies Chairman Harry Gray had in mind when he paid $398 million for Otis in 1976 and $1 billion for Carrier three years later. But in 1980, when Gray added Mostek to his collection, it all began to make sense. A division of United Technologies called Building Systems Co. now links the acquirees together. Using microprocessor technology developed by Mostek, Building Systems designs "intelligent" buildings for real-estate developers. Computers control the air conditioning, heating, elevators, communications, security, and other functions in high-rise buildings. Set up in 1982, Building Systems had sales of $147 million last year. The building group—including Otis, Carrier, Building Systems, and Essex, a cable and wire unit—now accounts for one-third of United Technologies' sales ($14.7 billion last year) and profits ($509 million).

▶ **American Express/Shearson Loeb Rhoades.** American Express could hardly have picked a better time to buy a brokerage house: Shearson's profits jumped 41% to $175 million in last year's bull market. Results like that make Shearson's 1981 purchase price of $903 million, which some analysts then thought too high, look quite reasonable. But observers applaud the merger for other reasons too. It gives Shearson's 4,000 brokers access to American Express's 17 million cardholders. Shearson contributed savvy managers, including Sanford Weill, now president of American Express. Notes Rodney Schwartz, a security analyst at Paine Webber, "American Express bought a different corporate culture. Shearson people are hungry, driven, and strong on the nuts and bolts of making systems work. American Express needed that."

▶ **Burlington Northern/St. Louis-San Francisco Railway.** "Frisco," as it's called, was a tiny regional railroad operating on a shoestring when Burlington Northern bought it in 1980 for a measly $138 million. The merger has worked better than many larger headline grabbers, mainly because Burlington put Frisco Chairman Richard Grayson in charge of all its railroad operations. He consolidated routes, updated equipment, and shed 15,000 workers. In the process, Burlington's operating ratio—expenses as a proportion of revenues, a measure of railroad efficiency—has dropped from .88 to .82. The industry average: .90.

THE 500

THE FORTUNE DIRECTORY OF THE LARGEST U.S. INDUSTRIAL CORPORATIONS

For the largest U.S. industrial corporations the big news was profits—they outclimbed inflation for the first time in four years. But the recovery was lopsided. Automakers won big, while several other industries slumped. Sixty of the 500 lost money—a record.

THE RECOVERY played favorites with the FORTUNE 500. While the auto industry soared, makers of industrial and farm equipment remained in a deep slump. The oil business continued to lag, and steelmakers showed few signs of getting well. Total profits for 1983 were up 12.1% (or 8.6% in real terms, after adjusting for inflation). That was the first real profit increase since 1979. Were it not for the carmakers' extraordinary comeback, real profits would have dropped for the fourth year running.

Sales rose by less than 1%. Sixty companies lost money, the most since FORTUNE began the 500 directory 30 years ago. Profits were down for 160 other companies. Return on shareholders' equity wasn't so hot either; the median return, 10.6%, dropped slightly from 1982.

With real personal incomes up and interest rates down, domestic car sales rose 18% and the industry basked in a 119% increase in profits. By contrast, profits of the industrial and farm equipment group dropped 15.8%, the largest decline of any industry on the list. This group included some long-running losers. International Harvester, for example, was in the red for the fourth straight year. The oil industry, still sloshing through a worldwide oil glut, had the second-biggest drop in profitability, 9.1%.

Exxon managed to hold its position as the world's largest industrial company, but its lead over General Motors continued to slip. Exxon's sales declined by $8.6 billion, to $88.6 billion, after having dropped by $11 billion in 1982. GM's sales zoomed an astonishing $14.6 billion, to $74.6 billion. That widened GM's lead over No. 3 Mobil to $20 billion, from $80 million last year. Ford's sales increased $7.4 billion, and it replaced Texaco in the No. 4 slot. Texaco fell out of the top five for the first time since 1974, as International Business Machines moved up from sixth. General Electric climbed back to No. 10 after a two-year hiatus.

The once beleaguered auto industry had a perfectly marvelous year. Except for struggling American Motors, which has lost money for four years in a row, everybody raked in profits. Chrysler's net catapulted 312%. Ford, the third-largest money loser last year, turned a profit of $1.9 billion; GM earned $3.7 billion. Tiremakers went along for the ride. Firestone Tire & Rubber had a 1,750% increase in profits, while B.F. Goodrich and General Tire also scored impressive gains.

Other winners were scattered across the list. IBM's $5.5-billion profit was tops, followed by Exxon's nearly $5 billion. Aluminum Co. of America; Northrop, a major contractor to the Air Force; American Hoechst, a chemical producer; and Jim Walter Corp., a big homebuilder, all bounced back from a difficult year to produce profit increases of more than 1,000%.

Though returns on equity were generally lackluster, there were a few exceptions. The highest returns were in publishing and pharmaceuticals. The highest single return of any company was Chrysler's 51.1%. Hard times had shrunk Chrysler's equity base; it was $1.1 billion last year (and less than zero in 1982). Return on equity is one of 14 performance measures FORTUNE applies to the 500 companies. A new table introduced this year ranks companies according to these measures within industry groups.

Newcomers to the list ranged from low-tech Coachmen Industries (No. 463), a maker of recreational vehicles, to such Silicon Valley stalwarts as ROLM (No. 454), a producer of telecommunications equipment, and Tandem Computers, whose sales of $418 million gave it the No. 500 position.

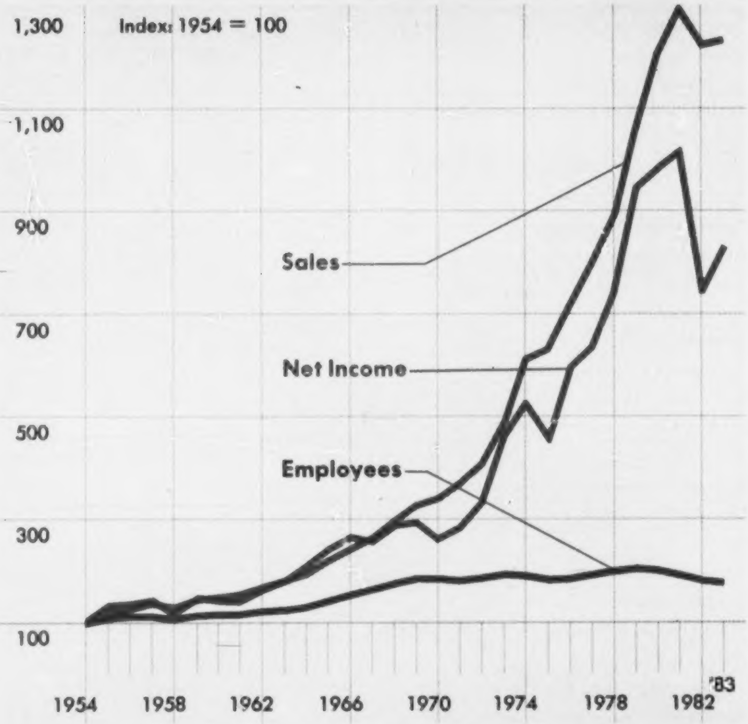
Twenty-seven companies left the list. Greyhound moved to the FORTUNE Service 500 directory (to be published in the June 11 issue); after selling the Armour Food division, Greyhound no longer derived more than 50% of its sales from manufacturing or mining, the criterion FORTUNE uses to determine eligibility for the industrial directory. Barnes Group, GATX, and Foster Wheeler dropped off for the same reason. Thirteen companies fell off the list because of declining sales. Two companies, Dan River and Cone Mills, went private. McDermott International reincorporated in Panama. Six disappeared because of mergers.

On the losing side of this lopsided recovery, U.S. Steel had the dubious honor of being No. 1. Its loss of $1.2 billion was more than triple its loss for 1982. Armco was next with a loss of $673 million, followed by most of the rest of the steel industry. Cincinnati Milacron lost $10 million, reflecting the continued weakness of the machine tool industry despite the capital goods recovery. Phelps Dodge, AMAX, and several other mining companies lost money. Texas Instruments posted a $145-million loss as one of the early shakees in the long-awaited personal computer shakeout.

The biggest sales increase came from James River Corp.—114.3%. The forest products company capped a 15-year buying spree with the purchase of the Dixie/Northern assets (Dixie cups, other paper goods) of American Can, and vaulted from No. 447 in 1981 to No. 209 this year. Coachmen Industries was second with 80.4%. Apple Computer had the third-largest increase, 68.6%. The company moved 112 notches higher on the list to No. 299.

In 1983's bull market the 500's stocks did well. The investor who bought shares in the 500's median performer—this year Vulcan Materials, No. 339—on December 31, 1982, and cashed them in exactly one year later would have realized a total return—price appreciation plus dividends—of 30.21%; the median increase was 21.22% last year. Beverage and auto stocks were the best places to invest in 1983, yielding median total returns of 48.63% and 42.75%. The best company to have owned this year was auto parts supplier A.O. Smith, which had a one-year total return to investors of 187.68%. Over the longer haul, Coachmen Industries had the highest ten-year average annual total return, 49.19%. **— Joan Campo**

THE 500 THROUGH THE YEARS



PERFORMANCE OF THE 500

	1983	1982
Sales (billions)	**$1,686.7**	**$1,672.2**
Change in sales	**.87%**	**–5.7%**
Profits (billions)	**$68.8**	**$61.4**
Change in profits	**12.1%**	**–27.1%**
Assets (billions)	**$1,353.9**	**$1,308.7**
Number of sales increases	**322**	**200**
Number of profit increases	**329**	**189**
Number of money losers	**60**	**58**
Median return on sales	**3.8%**	**3.6%**
Median return on equity	**10.6%**	**10.9%**
Median total return to investors	**30.21%**	**21.22%**
Number of employees (millions)	**14.1**	**14.4**

Tracking the Uneven Recovery

Shadows crept in among the bright spots in this mottled recovery year. Profits rose faster than inflation for the first time since 1979—on the strength of lofty earnings for carmakers—but 310,000 jobs disappeared. Sales, after dropping in 1982, turned up, but only slightly. The number of companies boosting their sales and profits climbed sharply from last year, but more companies lost money. The median return on equity edged down too. The stock market was the only source of unrelenting sunshine. The 500 companies' median total return to investors climbed to 30.21%.

THE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS, RANKED BY SALES

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	1	**Exxon** (New York)	**88,561,134***	**62,962,990**	1	**4,977,957**	2	**29,443,095**	1
2	2	**General Motors** (Detroit)	**74,581,600**	**45,694,500**	2	**3,730,200**	3	**20,766,600**	3
3	3	**Mobil** (New York)	**54,607,000***	**35,072,000**	4	**1,503,000**	11	**13,952,000**	6
4	5	**Ford Motor** (Dearborn, Mich.)	**44,454,600**	**23,868,900**	9	**1,866,900**	6	**7,545,300**	14
5	6	**International Business Machines** (Armonk, N.Y.)	**40,180,000**	**37,243,000**	3	**5,485,000**	1	**23,219,000**	2
6	4	**Texaco** (Harrison, N.Y.)	**40,068,000**	**27,199,000**	5	**1,233,000**	12	**14,726,000**	4
7	8	**E.I. du Pont de Nemours** (Wilmington, Del.)	**35,378,000**	**24,432,000**	7	**1,127,000**	13	**11,472,000**	8
8	10	**Standard Oil (Indiana)** (Chicago)	**27,635,000***	**25,805,000**	6	**1,868,000**	5	**12,440,000**	7
9	7	**Standard Oil of California** (San Francisco)	**27,342,000**	**24,010,000**	8	**1,590,000**	8	**14,106,000**	5
10	11	**General Electric** (Fairfield, Conn.)	**26,797,000**	**23,288,000**	10	**2,024,000**	4	**11,270,000**	10
11	9	**Gulf Oil** (Pittsburgh)	**26,581,000***	**20,964,000**	13	**978,000**	14	**10,128,000**	12
12	12	**Atlantic Richfield** (Los Angeles)	**25,147,036**	**23,282,307**	11	**1,547,875**	9	**10,888,138**	11
13	13	**Shell Oil** (Houston)	**19,678,000**	**22,169,000**	12	**1,633,000**	7	**11,359,000**	9
14	15	**Occidental Petroleum** (Los Angeles)	**19,115,700**	**11,775,400**	21	**566,700****	25	**2,640,900**	50
15	14	**U.S. Steel** (Pittsburgh)	**16,869,000**	**19,314,000**	14	**(1,161,000)**	489	**5,355,000**	20
16	17	**Phillips Petroleum** (Bartlesville, Okla.)	**15,249,000**	**13,094,000**	18	**721,000**	18	**6,149,000**	16
17	18	**Sun** (Radnor, Pa.)	**14,730,000**	**12,466,000**	19	**453,000**	34	**5,236,000**	21
18	20	**United Technologies** (Hartford)	**14,669,265**	**8,720,059**	32	**509,173**	28	**3,783,755**	31
19	19	**Tenneco** (Houston)	**14,353,000**	**17,994,000**	15	**716,000**	19	**5,822,000**	18
20	16	**ITT** (New York)[1]	**14,155,408**	**13,966,744**	17	**674,510**	21	**6,106,084**	17
21	29	**Chrysler** (Highland Park, Mich.)	**13,240,399**	**6,772,300**	38	**700,900****	20	**1,143,058**	126
22	23	**Procter & Gamble** (Cincinnati)[2]	**12,452,000**	**8,135,000**	34	**866,000**	17	**4,601,000**	27
23	25	**R.J. Reynolds Industries** (Winston-Salem, N.C.)[3]	**11,957,000¶***	**9,874,000**	26	**881,000**	16	**5,223,000**	22
24	24	**Getty Oil** (Los Angeles)	**11,600,024**	**10,385,050**	23	**494,314**	29	**5,402,707**	19
25	21	**Standard Oil (Ohio)** (Cleveland)	**11,599,000**	**16,362,000**	16	**1,512,000**	10	**8,094,000**	13
26	22	**AT&T Technologies** (New York)[4]	**11,154,700**	**9,087,500**	30	**50,700**	229	**4,621,300**	26
27	34	**Boeing** (Seattle)	**11,129,000**	**7,471,000**	36	**355,000**	44	**3,038,000**	40
28	27	**Dow Chemical** (Midland, Mich.)	**10,951,000**	**11,981,000**	20	**334,000****	47	**5,047,000**	24
29	49	**Allied** (Morris Township, N.J.)[5]	**10,351,000**	**7,647,000**	35	**98,000**	145	**2,747,000**	46
30	26	**Eastman Kodak** (Rochester, N.Y.)	**10,170,000**	**10,928,000**	22	**565,000**	26	**7,520,000**	15
31	28	**Unocal** (Los Angeles)[6]	**10,065,600**	**9,228,000**	29	**625,900**	24	**5,180,100**	23
32	37	**Goodyear Tire & Rubber** (Akron, Ohio)	**9,735,800**	**5,985,500**	44	**305,500****	49	**3,016,200**	42
33	30	**Dart & Kraft** (Northbrook, Ill.)	**9,714,000**	**5,418,100**	49	**435,100**	38	**2,922,700**	43
34	31	**Westinghouse Electric** (Pittsburgh)	**9,532,600**	**8,569,000**	33	**449,000**	36	**3,410,300**	35
35	32	**Philip Morris** (New York)	**9,465,600***	**9,667,000**	27	**903,500**	15	**4,033,700**	30
36	35	**Beatrice Foods** (Chicago)[8]	**9,188,200**	**4,731,700**	58	**43,200**	252	**2,214,800**	60
37	33	**Union Carbide** (Danbury, Conn.)	**9,001,100**	**10,295,300**	24	**79,200‡**	168	**4,928,800**	25
38	38	**Xerox** (Stamford, Conn.)	**8,463,500**	**9,296,900**	28	**466,400**	32	**4,222,400**	28
39	40	**Amerada Hess** (New York)	**8,368,946**	**6,217,098**	42	**205,347**	72	**2,525,663**	52
40	53	**Union Pacific** (New York)	**8,352,585**	**10,218,416**	25	**296,886**	53	**4,056,481**	29
41	39	**General Foods** (White Plains, N.Y.)[9]	**8,256,433**	**4,309,598**	70	**288,525**	54	**1,872,120**	75
42	43	**McDonnell Douglas** (St. Louis)	**8,111,000**	**4,791,800**	57	**274,900**	59	**2,067,900**	65
43	42	**Rockwell International** (Pittsburgh)[10]	**8,097,900**	**5,231,100**	52	**389,100**	43	**2,367,300**	56
44	41	**PepsiCo** (Purchase, N.Y.)	**7,895,936**	**4,638,340**	61	**284,111**	57	**1,794,158**	79
45	36	**Ashland Oil** (Russell, Ky.)[10]	**7,852,299**	**4,107,839**	74	**102,833**	137	**1,084,824**	140
46	46	**General Dynamics** (St. Louis)	**7,146,300**	**2,836,200**	112	**286,600**	56	**1,260,600**	109
47	44	**Minnesota Mining & Manufacturing** (St. Paul)	**7,039,000**	**5,760,000**	47	**667,000**	22	**3,698,000**	32
48	48	**Coca-Cola** (Atlanta)	**6,990,992**	**5,227,822**	53	**558,787**	27	**2,920,756**	44
49	51	**Consolidated Foods** (Chicago)[2]	**6,572,298**	**2,616,340**	127	**171,255**	91	**935,016**	164
50	56	**Lockheed** (Burbank, Calif.)	**6,490,300**	**2,829,600**	114	**262,800**	60	**826,200**	183

THE DEFINITIONS AND CONCEPTS UNDERLYING THE FIGURES IN THIS DIRECTORY ARE EXPLAINED ON PAGE 322.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
156,000†	9	5.6	135	7.8§	324	5.78	4.82	2.72	7.81	195	36.05	185	12.39	285	29
691,000†	1	5.0	171	18.0	75	11.84	3.09	8.34	3.57	266	23.73	274	12.75	275	40
178,100	7	2.8	330	10.8	241	3.70	3.31	2.08	5.90	231	22.39	288	15.17	221	29
380,077†	2	4.2	219	24.7	16	10.29	(3.64)	4.87	7.77	199	65.43	70	14.22	237	40
369,545	3	13.7	9	23.6	23	9.04	7.39	2.70	12.85	98	30.61	227	11.30	306	44
54,683	62	3.1	302	8.4	307	4.80	4.92	4.75	0.10	325	24.90	267	10.21	322	29
159,231	8	3.2	290	9.8	269	4.70	3.75	4.01	1.59	302	51.92	110	5.39	390	28
56,734	55	6.8	90	15.0	128	6.39	6.25	1.83	13.30	90	34.72	196	11.90	295	29
40,091	92	5.8	123	11.3	229	4.65	4.03	2.48	6.47	220	15.70	329	13.53	253	29
340,000†	4	7.6	70	18.0	76	4.45	4.00	1.60	10.74	127	27.38	245	10.91	314	36
42,700	83	3.7	253	9.7	274	5.83	4.98	4.06	3.68	262	54.54	102	13.97	243	29
49,693	70	6.2	114	14.2	154	6.03	6.61	1.19	17.62	43	8.69	374	8.70	348	29
35,185	113	8.3	52	14.4	151	5.28	5.19	1.23	15.64	61	13.11	346	13.79	247	29
41,369	87	3.0	310	7.8§	325	2.03**	0.69	1.05	6.81	216	38.61	172	19.00	153	10
98,722†	19	—		—		(12.07)	(3.99)	4.01	—		49.40	121	8.32	358	29
28,400	143	4.7	190	11.7	215	4.71	4.23	1.52	11.94	110	12.49	350	4.10	408	29
37,804	104	3.1	303	8.7	298	3.84	4.49	2.25	5.48	238	46.77	130	10.80	316	29
193,700	6	3.5	263	13.5	177	7.94	8.74	2.46	12.43	101	32.54	213	25.26	73	41
97,000	20	5.0	175	11.2§	230	4.75	5.74	2.86	5.20	245	35.10	192	12.97	269	29
278,000	5	4.8	187	11.1	234	4.50	4.75	4.22	0.64	317	52.03	108	13.24	264	36
81,478†	29	5.3	153	51.1§	1	5.79**	1.84	4.80	1.89	294	55.63	97	10.00	328	40
61,700	50	7.0	87	18.8	57	5.22	4.69	1.84	10.99	122	0.25	410	5.75	384	43
96,228	21	7.4	75	15.7§	115	7.25	7.82	2.94	9.43	157	25.10	265	17.45	179	21
19,440	192	4.3	212	9.1§	286	6.24	8.61	1.88	12.72	100	107.68	13	12.02	292	29
44,000	77	13.0	12	18.7	61	6.14	7.63	0.61**	26.03	12	32.91	208	12.22	288	29
142,000†	11	0.5	419	1.1	415	N.A.	N.A.	N.A.	—		—		—		36
84,600†	28	3.2	287	11.7	218	3.67	3.02	0.53	21.27	29	33.28	205	36.92	14	41
54,500	64	3.1	306	6.6	361	1.71**	2.07**	1.49	1.35	308	35.94	186	5.90	383	28
117,750	15	1.0	402	1.2§	414	0.13	6.22	3.45	(27.95)	387	79.61	30	6.53	378	37
125,500	14	5.6	136	7.5	333	3.41	7.12	4.05	(1.71)	342	(7.35)	439	(0.38)	438	38
20,304	187	6.2	109	12.1	208	3.60	4.63	1.38	10.10	140	22.54	286	13.50	254	29
128,760†	13	3.1	295	10.1	260	3.06**	3.59	2.53	1.92	293	(9.21)	443	14.22	236	30
77,139†	37	4.5	200	14.9	136	7.92	6.40	3.70[7]	7.91	190	2.87	399	11.79	297	20
132,927†	12	4.7	191	13.2	185	5.08	5.16	1.82	10.81	125	45.47	136	14.27	234	36
68,000	47	9.6	39	22.4	29	7.17	6.23	1.35	18.13	42	24.21	271	12.72	277	21
78,000†	34	0.5	418	2.0	407	0.27	3.80**	1.36	(14.93)	378	42.34	153	9.29	338	20
99,506	18	0.9	404	1.6	410	1.13‡	4.47	4.78	(13.43)	376	25.11	264	12.61	279	28
104,007	16	5.5	138	9.9§	267	4.42	5.00	3.80	1.52	303	40.47	165	(4.88)	453	38
8,082†	355	2.5	347	8.1	316	2.43	2.00	4.41	(5.80)	359	20.40	304	8.74	347	29
46,897†	72	3.6	257	6.6§	363	2.40	3.38	1.40	5.52	237	11.81	352	11.73	299	29
60,000	53	3.5	261	15.4	121	5.73	4.05	2.21	10.00	142	35.71	188	14.32	232	20
74,466	40	3.4	270	13.3	180	6.91	5.44	3.26	7.80	196	44.35	141	18.00	168	41
102,707	17	4.8	186	16.4	100	2.52	2.16	1.06	9.02	163	59.32	88	24.83	77	41
154,000	10	3.6	256	15.8	112	3.01	2.40	1.12	10.39	137	11.52	353	8.95	343	49
28,976	138	1.3	394	6.3§	368	2.46	5.29	2.25	0.91	312	5.17	390	12.54	281	29
92,600	24	4.0	231	22.7	27	5.30	2.41	0.79	21.00	33	78.95	33	32.01	27	41
85,702	27	9.5	40	18.0	72	5.67	5.37	2.62	8.03	188	14.40	336	4.35	404	38
40,000	94	8.0	62	19.1	53	4.10	3.95	1.80	8.58	174	8.04	375	2.93	418	49
93,300	23	2.6	339	18.3	68	5.75	5.39	2.51	8.64	172	20.38	305	16.75	193	20
71,800	44	4.1	227	31.5§	4	4.18	3.65	0.49**	23.82	18	63.82	75	43.46	5	41

[1] Name changed from International Telephone & Telegraph December 31, 1983.

[2] Figures are for fiscal year ended June 30, 1983.

[3] Figures include Heublein (1982 rank: 204), acquired October 12, 1982.

[4] Name changed from Western Electric January 3, 1984.

[5] Figures include Bendix (1982 rank: 86), acquired January 31, 1983.

[6] Name changed from Union Oil of California April 25, 1983.

[7] Figure is for Kraftco.

[8] Figures are for fiscal year ended February 28, 1983.

[9] Figures are for fiscal year ended March 31, 1983.

[10] Figures are for fiscal year ended September 30, 1983.

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
51	62	**Georgia-Pacific** (Atlanta)	6,469,000	4,979,000	56	105,000	135	2,013,000	69
52	47	**Monsanto** (St. Louis)	6,299,000	6,427,000	39	402,000	41	3,667,000	33
53	50	**W.R. Grace** (New York)	6,219,500	5,034,600	55	159,715	102	2,182,300	61
54	69	**Signal Companies** (La Jolla, Calif.)[11]	6,151,000	5,203,000	54	103,000	136	2,633,000	51
55	77	**Anheuser-Busch** (St. Louis)	6,034,200*	4,330,200	69	348,000	45	1,766,500	81
56	52	**Nabisco Brands** (Parsippany, N.J.)	5,985,200	3,625,500	84	322,600	48	1,710,800	83
57	55	**Johnson & Johnson** (New Brunswick, N.J.)	5,972,900	4,461,500	64	489,000	31	3,026,500	41
58	54	**Coastal** (Houston)	5,963,074	3,338,392	93	93,695	149	572,007	229
59	58	**Raytheon** (Lexington, Mass.)	5,937,264	3,728,700	81	300,147	52	1,887,441	74
60	59	**Honeywell** (Minneapolis)	5,753,100	4,675,400	60	231,200	69	2,313,700	57
61	88	**Charter** (Jacksonville, Fla.)	5,565,643	1,813,199	175	53,895	218	614,127	217
62	63	**General Mills** (Minneapolis)[12]	5,550,800	2,943,900	103	245,100	63	1,227,400	115
63	66	**TRW** (Cleveland)	5,492,998	3,321,383	94	205,160	73	1,615,979	86
64	45	**Caterpillar Tractor** (Peoria, Ill.)	5,424,000	6,968,000	37	(345,000)	482	3,337,000	36
65	74	**Aluminum Co. of America** (Pittsburgh)	5,263,400	6,266,800	41	174,200	89	3,227,500	38
66	57	**Sperry** (New York)[9]	5,076,000	5,330,300	50	118,100	119	2,398,900	55
67	60	**Gulf & Western Industries** (New York)[13]	5,072,459¶	4,418,176	67	(212,053)	480	1,893,924	73
68	67	**Continental Group** (Stamford, Conn.)	4,942,000	3,653,000	83	199,000	77	1,532,000	88
69	64	**Bethlehem Steel** (Bethlehem, Pa.)	4,898,200	4,457,400	65	(163,500)**	477	1,313,100	103
70	82	**Weyerhaeuser** (Tacoma, Wash.)	4,882,629	5,945,634	45	204,843	74	3,223,347	39
71	71	**Ralston Purina** (St. Louis)[10]	4,872,400	2,101,200	155	256,000	61	1,104,100	138
72	70	**Colgate-Palmolive** (New York)	4,864,798	2,663,965	123	197,834	78	1,341,668	101
73	76	**American Home Products** (New York)	4,856,501	3,086,029	100	627,233	23	2,048,889	67
74	68	**Litton Industries** (Beverly Hills, Calif.)[13]	4,719,206	3,999,403	76	231,560	68	1,829,661	77
75	81	**Hewlett-Packard** (Palo Alto, Calif.)[14]	4,710,000	4,161,000	73	432,000	39	2,887,000	45
76	80	**Control Data** (Minneapolis)	4,582,800	8,777,600	31	161,700	100	1,825,500	78
77	79	**Texas Instruments** (Dallas)	4,579,800	2,713,300	122	(145,400)	473	1,202,700	119
78	65	**LTV** (Dallas)	4,577,800	4,406,300	68	(180,700)‡	479	1,142,000	127
79	90	**American Brands** (New York)	4,436,452*	4,303,874	71	390,298	42	2,085,147	64
80	91	**International Paper** (New York)	4,357,100	5,617,100	48	254,900	62	3,321,200	37
81	98	**Motorola** (Schaumburg, Ill.)	4,328,000	3,236,000	97	244,000	64	1,948,000	71
82	85	**Burroughs** (Detroit)	4,296,500	4,098,200	75	196,900	79	2,231,900	59
83	102	**Archer-Daniels-Midland** (Decatur, Ill.)[2]	4,291,957	2,549,910	131	110,185	130	1,449,963	95
84	95	**Digital Equipment** (Maynard, Mass.)[2]	4,271,854	4,541,085	62	283,622	58	3,541,282	34
85	84	**Borden** (New York)	4,264,771	2,720,471	121	189,069	84	1,391,039	100
86	101	**Champion International** (Stamford, Conn.)	4,263,999	3,575,743	88	82,160	164	1,782,186	80
87	61	**Armco** (Middletown, Ohio)	4,164,600	3,609,000	86	(672,500)	488	1,288,900	106
88	117	**Esmark** (Chicago)[14]	4,037,386	3,661,673	82	117,348	120	1,031,001	146
89	121	**Diamond Shamrock** (Dallas)[15]	4,026,107	6,024,441	43	(56,163)	456	2,743,327	47
90	87	**CPC International** (Englewood Cliffs, N.J.)	4,010,900	2,482,800	133	136,200	110	1,306,000	104
91	106	**Time Inc.** (New York)	3,990,435¶	2,273,316	142	168,934	92	881,445	174
92	75	**Deere** (Moline, Ill.)[14]	3,967,934	5,880,012	46	23,285	341	2,275,967	58
93	104	**Bristol-Myers** (New York)	3,917,005	3,007,265	102	407,961	40	1,907,909	72
94	108	**Martin Marietta** (Bethesda, Md.)	3,899,258	2,737,651	118	141,331	106	845,356	181
95	96	**Firestone Tire & Rubber** (Akron, Ohio)[14]	3,866,000	2,729,000	119	111,000	128	1,291,000	105
96	94	**IC Industries** (Chicago)	3,864,100	3,985,100	77	92,700	152	1,225,100	116
97	122	**North American Philips** (New York)	3,799,825	2,252,493	144	95,712	146	883,874	173
98	97	**Agway** (DeWitt, N.Y.)[2]	3,768,212	1,416,547	209	N.A.[16]		290,931	340
99	114	**Pfizer** (New York)	3,750,000	3,936,100	78	447,100	37	2,180,800	62
100	103	**H.J. Heinz** (Pittsburgh)[17]	3,738,445	2,178,693	150	214,250	71	1,138,707	128

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
39,000	99	1.6	381	5.2	383	0.97	1.44‡	1.79	(5.93)	360	(3.43)	428	4.64	400	26
50,889	68	6.4	103	11.0	235	9.78	8.79	6.90	3.55	267	43.48	143	12.07	291	28
78,500	33	2.6	340	7.3	339	3.28	6.62	2.86	1.38	307	25.21	262	12.79	273	28
55,000	60	1.7	379	3.9	394	0.90	1.56	0.79	1.29	309	35.60	190	20.88	129	41
39,320	97	5.8	127	18.0§	73	6.50	5.97	1.46	16.11	51	(0.59)	412	9.78	332	49
69,700	45	5.4	147	18.9	56	4.86	4.83	1.32	13.90	82	17.61	314	15.19	220	20
77,400	36	8.2	55	16.2	107	2.57	2.52	0.86	11.53	112	(15.47)	452	2.75	420	42
5,484	420	1.6	385	15.3§	123	4.02	2.65	1.76	8.61	173	72.74	46	17.93	170	29
76,100	39	5.1	167	15.9	111	3.55	3.78	0.77	16.51	47	(0.50)	411	21.78	113	36
93,514	22	4.0	230	10.0	265	5.03	6.08	2.73	6.30	224	56.49	93	10.35	320	44
4,800	438	1.0	401	8.8	297	2.01	1.04	0.92	8.11	184	11.36	355	17.86	175	29
81,186	30	4.4	205	20.0	47	4.89	4.46	1.40	13.32	88	11.16	356	10.33	321	20
88,374	26	3.7	249	12.7	192	5.53	5.49	2.95	6.49	218	21.66	294	21.42	119	40
58,402†	54	—		—		(3.74)	(2.04)	2.88	—		21.50	296	4.18	407	45
39,100†	98	3.3	276	5.4	379	2.15	0.11**	1.54	3.36	269	48.63	124	10.92	313	33
77,493	35	2.3	350	4.9	387	2.65	5.25	2.62	0.11	324	45.86	134	3.89	410	44
79,150	32	—		—		(2.86)	2.17	1.34	—		84.55	26	20.39	140	23
39,700	95	4.0	228	11.5§	223	3.66	3.20	2.17	5.38	242	66.47	66	17.63	177	34
52,800†	66	—		—		(3.92)**	(33.64)	4.72	—		51.17	114	4.80	397	33
40,018	93	4.2	220	6.3§	367	1.36	1.12	2.74	(6.77)	364	(2.64)	426	1.71	426	26
56,200	58	5.3	155	23.2	25	2.58	0.66	0.74	13.30	91	63.37	79	11.27	307	20
43,000†	80	4.1	225	14.8	144	2.42	2.41	1.31	6.33	223	15.97	327	3.66	412	43
54,680	63	12.9	13	30.6	6	4.00	3.59	1.25	12.33	103	16.26	323	6.58	377	42
69,200	46	4.9	181	12.7	193	5.52	7.54	0.82	21.01	32	47.11	129	30.51	32	36
72,000	43	9.2	43	15.0	133	1.69	1.52	0.24	21.75	24	16.53	321	15.91	214	44
55,858	59	3.5	258	8.9	291	4.20	4.11	1.86	8.46	178	23.47	278	11.13	309	44
80,696	31	—		—		(6.09)	6.10	3.67	—		4.46	392	4.29	405	36
37,300	105	—		—		(3.64)‡	(3.20)	5.16**	—		63.74	77	7.28	371	33
74,000	41	8.8	46	18.1§	71	6.76	6.55	2.45	10.68	131	36.89	181	22.15	109	21
33,600	121	5.9	121	6.9§	354	4.61	2.94	3.60	2.50	281	26.93	250	6.14	380	26
88,800	25	5.6	134	12.5	195	6.26	4.87	2.95	7.81	194	58.45	90	12.86	272	36
63,800	48	4.6	198	8.8	295	4.60	2.80	3.00	4.35	253	26.89	251	(4.14)	451	44
8,670	337	2.6	341	7.6	331	1.34	1.93	0.30	16.11	50	(1.67)	423	15.44	217	20
73,000	42	6.6	96	8.0	320	5.00	7.53	0.72	21.38	27	(27.64)	458	7.80	361	44
32,600†	122	4.4	203	13.6	172	6.56	5.81	2.37	10.72	129	23.64	275	16.73	195	20
39,681	96	1.9	367	4.6	390	1.22	0.45	2.71	(7.67)	367	23.26	280	11.41	303	26
48,071	71	—		—		(10.27)	(5.41)	2.25	—		29.92	235	10.05	325	33
60,000	51	2.9	316	11.2§	231	3.66	3.39	0.99	13.99	80	50.37	117	26.10	62	20
13,364	247	—		—		(0.71)	2.94	1.42	—		3.64	397	9.97	329	29
38,000	102	3.4	269	10.4	250	2.81	4.80	1.59	5.83	233	(2.28)	425	16.88	190	20
18,000	208	4.2	216	18.6§	62	2.65	2.45	1.14	8.75	169	22.54	285	27.54	48	27
45,728	74	0.6	412	1.0	417	0.34	0.78	2.88	(19.22)	382	33.90	201	8.61	350	45
36,500	109	10.4	28	21.4	34	3.00	2.59	0.79	14.27	76	29.11	238	17.28	184	42
42,800	82	3.6	255	16.7	92	4.23	1.95	1.13	14.08	79	27.01	248	25.64	67	41
60,000	52	2.9	321	8.6	300	2.26	0.11**	2.89	(2.43)	346	23.51	277	11.05	311	30
40,807	89	2.4	348	6.9§	356	4.73	2.03	3.42	3.30	271	43.06	148	16.00	212	20
56,500	56	2.5	344	8.1§	317	6.75	5.33	3.78	5.97	229	67.88	62	20.94	128	36
17,953	209	—		—		N.A.	N.A.	N.A.	—		—		—		29
40,700	90	11.9	16	20.5	40	2.73	2.13	0.87	12.12	107	7.18	380	8.41	357	42
43,452	79	5.7	129	18.8§	58	4.51	4.10	0.47‡	25.29	15	45.70	135	17.97	169	20

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[11] Figures include Wheelabrator-Frye (1982 rank: 227), acquired February 1, 1983.

[12] Figures are for fiscal year ended May 31, 1983.

[13] Figures are for fiscal year ended July 31, 1983.

[14] Figures are for fiscal year ended October 31, 1983.

[15] Figures include Natomas (1982 rank: 214), acquired August 31, 1983.

[16] Cooperatives provide only "net margin" figures, which are not comparable with the net income figures in these listings.

[17] Figures are for fiscal year ended April 30, 1983.

RANK		**COMPANY**	**SALES**	**ASSETS**		**NET INCOME**		**STOCKHOLDERS' EQUITY**	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
101	109	**NCR** (Dayton, Ohio)	**3,730,951**	**3,560,302**	89	**287,665**	55	**2,044,873**	68
102	115	**Pillsbury** (Minneapolis)[12]	**3,685,900**	**2,366,600**	138	**138,900**	107	**956,400**	161
103	118	**PPG Industries** (Pittsburgh)	**3,681,600**	**3,614,700**	85	**232,500**	67	**1,845,800**	76
104	73	**International Harvester** (Chicago)[14]	**3,601,302**	**3,361,827**	92	**(485,285)****	486	**(535,238)**	499
105	139	**American Motors** (Southfield, Mich.)	**3,565,941**	**1,723,823**	179	**(146,730)**	474	**134,294**	455
106	120	**Borg-Warner** (Chicago)	**3,542,100**	**2,617,100**	126	**182,600**	87	**1,473,000**	92
107	113	**American Cyanamid** (Wayne, N.J.)	**3,535,514**	**3,056,094**	101	**166,356**	95	**1,603,658**	87
108	99	**Kerr-McGee** (Oklahoma City)	**3,507,650**	**3,806,934**	80	**118,412**	118	**1,732,824**	82
109	93	**United Brands** (New York)[9]	**3,501,734**	**1,091,540**	246	**(149,553)**	475	**224,615**	378
110	111	**FMC** (Chicago)	**3,498,162**	**2,783,222**	117	**168,784**	93	**1,450,839**	94
111	110	**Emerson Electric** (St. Louis)[10]	**3,475,709**	**2,493,041**	132	**302,927**	51	**1,701,745**	84
112	83	**Dresser Industries** (Dallas)[14]	**3,473,400**	**3,245,400**	96	**5,100**	416	**1,952,900**	70
113	137	**Boise Cascade** (Boise, Idaho)	**3,450,890**	**2,837,635**	111	**60,380**	201	**1,398,523**	99
114	92	**Warner Communications** (New York)	**3,425,272**	**3,122,306**	99	**(417,803)**	484	**960,047**	160
115	107	**Owens-Illinois** (Toledo)	**3,422,100**	**2,935,900**	104	**69,100**	181	**1,321,700**	102
116	116	**Carnation** (Los Angeles)	**3,365,275**	**1,748,012**	178	**194,759**	80	**1,118,391**	135
117	89	**American Can** (Greenwich, Conn.)	**3,346,400**	**2,830,500**	113	**100,100**	142	**914,000**	167
118	130	**Reynolds Metals** (Richmond, Va.)	**3,340,800**	**3,293,500**	95	**(99,100)**	465	**1,219,600**	117
119	135	**Campbell Soup** (Camden, N.J.)[13]	**3,292,433**	**1,991,526**	162	**165,005**	96	**1,149,404**	125
120	134	**Kimberly-Clark** (Neenah, Wis.)	**3,274,300**	**2,903,900**	106	**188,800**	85	**1,477,700**	90
121	100	**Land O'Lakes** (Arden Hills, Minn.)	**3,264,792¶**	**694,446**	314	**N.A.**[16]		**217,423**	385
122	126	**Celanese** (New York)	**3,261,000**	**2,869,000**	109	**112,000**	126	**1,169,000**	123
123	158	**Northrop** (Los Angeles)	**3,260,600**	**1,596,000**	192	**100,700**	140	**576,900**	228
124	125	**Merck** (Rahway, N.J.)	**3,246,139**	**4,214,698**	72	**450,855**	35	**2,434,613**	54
125	128	**B.F. Goodrich** (Akron, Ohio)	**3,191,700**	**2,575,800**	130	**18,400**	371	**1,108,300**	137
126	131	**SmithKline Beckman** (Philadelphia)	**3,152,391¶**	**3,170,091**	98	**489,500**	30	**2,055,475**	66
127	143	**Inland Steel** (Chicago)	**3,149,195**	**2,626,435**	125	**(116,900)**	469	**1,131,310**	131
128	119	**Warner-Lambert** (Morris Plains, N.J.)	**3,108,325**	**2,919,416**	105	**200,496**	75	**1,420,517**	97
129	105	**Combustion Engineering** (Stamford, Conn.)	**3,091,936**	**2,585,435**	129	**(20,375)**	448	**769,195**	189
130	132	**Eli Lilly** (Indianapolis)	**3,033,700**	**3,413,800**	91	**457,400**	33	**2,121,000**	63
131	129	**Avon Products** (New York)	**3,000,100**	**2,285,800**	140	**164,400**	97	**1,204,200**	118
132	127	**National Intergroup** (Pittsburgh)[18]	**2,992,703**	**2,649,131**	124	**(154,318)****	476	**874,925**	175
133	140	**Burlington Industries** (Greensboro, N.C.)[10]	**2,990,362**	**2,190,402**	149	**88,481**	157	**1,197,421**	120
134	136	**Textron** (Providence)	**2,979,800**	**2,104,600**	154	**88,700**	156	**1,244,600**	111
135	141	**Teledyne** (Los Angeles)	**2,979,000**	**3,852,200**	79	**304,600**	50	**2,641,200**	49
136	124	**Norton Simon** (New York)[2]	**2,943,825**	**2,043,683**	161	**9,743‡**	403	**618,542**	213
137	152	**Abbott Laboratories** (North Chicago, Ill.)	**2,927,873**	**2,824,128**	115	**347,617**	46	**1,417,883**	98
138	147	**Eaton** (Cleveland)	**2,918,125**	**2,279,084**	141	**93,311**	151	**987,341**	153
139	160	**Dana** (Toledo)	**2,865,012**	**2,094,777**	157	**112,803**	125	**1,118,315**	136
140	138	**Kaiser Aluminum & Chemical** (Oakland, Calif.)	**2,857,600**	**3,506,000**	90	**(74,900)**	460	**1,232,700**	112
141	154	**St. Regis** (New York)[19]	**2,774,578**	**2,880,078**	107	**55,181**	213	**1,531,434**	89
142	163	**Owens-Corning Fiberglas** (Toledo)	**2,753,213**	**1,640,519**	188	**87,923**	158	**765,560**	190
143	153	**Levi Strauss** (San Francisco)[20]	**2,731,273**	**1,831,875**	172	**194,523**	81	**1,053,709**	142
144	133	**Crown Zellerbach** (San Francisco)	**2,722,400**	**2,411,000**	134	**87,800**	159	**1,135,100**	130
145	145	**Republic Steel** (Cleveland)	**2,701,107**	**2,867,376**	110	**(326,494)**	481	**1,093,539**	139
146	146	**Quaker Oats** (Chicago)[2]	**2,690,000**	**1,463,700**	205	**56,800**	206	**639,400**	208
147	168	**Whirlpool** (Benton Harbor, Mich.)	**2,667,682**	**1,466,503**	204	**167,038**	94	**977,648**	159
148	159	**Hercules** (Wilmington, Del.)	**2,628,954**	**2,175,173**	151	**174,222**	88	**1,288,118**	107
149	149	**Mead** (Dayton, Ohio)	**2,613,400¶**	**2,087,200**	159	**42,600****	255	**863,000**	176
150	148	**Interco** (St. Louis)[8]	**2,566,606**	**1,554,975**	193	**85,762**	161	**932,417**	165

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[18] Company was restructured September 13, 1983 as holding company of National Steel (1982 rank: 127).

[19] Name changed from St. Regis Paper April 28, 1983.

[20] Figures are for fiscal year ended November 30, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
62,000	49	7.7	66	14.1	161	10.55	8.75	3.10	13.03	96	51.80	111	17.89	174	44
56,200	57	3.8	245	14.5	148	6.39	6.29	1.87	13.07	94	50.62	116	17.90	173	20
36,974†	107	6.3	104	12.6	194	3.34	2.25	1.67	7.16	210	39.54	170	22.64	100	32
32,445	124	—		—		(15.70)**	(51.39)	4.13	—		170.59	2	(2.92)	446	40
25,900	153	—		—		(2.11)	(2.85)	3.18**	—		(5.66)	433	(2.39)	443	40
77,100†	38	5.2	162	12.4	198	2.03	1.95	0.92	8.18	183	34.81	195	25.15	75	45
38,691	101	4.7	192	10.4	254	3.41	2.74	2.37	3.71	261	48.92	123	15.86	215	28
9,544	308	3.4	272	6.8	357	2.24	3.98	1.26	5.92	230	10.35	361	(1.49)	441	29
43,000	81	—		—		(13.82)	0.06	2.11	—		82.35	29	8.55	353	20
30,497	129	4.8	185	11.6	220	5.02	4.56	2.34	7.93	189	48.60	126	16.51	201	37
50,000†	69	8.7	47	17.8	78	4.42	4.37	1.54	11.12	120	13.47	343	7.82	360	36
40,500	91	0.2	427	0.3	423	0.06	2.19	0.84	(23.24)	386	9.11	371	4.99	395	45
28,708	140	1.8	376	4.3	392	1.91	0.26	4.55**	(8.31)	369	17.05	315	16.82	192	26
20,000	189	—		—		(6.44)	3.96	0.66	—		(16.79)	453	28.42	43	36
43,854	78	2.0	361	5.2	382	2.48	3.18	4.23	(5.20)	357	38.25	176	14.63	226	32
20,415	186	5.8	125	17.4	82	5.47	5.01	1.73	12.18	105	31.53	219	11.20	308	20
29,800†	132	3.0	308	8.2§	311	3.75	(7.31)	3.58	0.47	319	61.21	82	14.03	239	34
28,200†	144	—		—		(5.15)	0.26	2.41	—		59.61	86	13.43	255	33
41,704	86	5.0	170	14.4	152	5.12	4.64	2.36	8.05	187	30.65	225	12.48	283	20
33,836	120	5.8	128	12.8	190	8.39	8.83	3.51	9.11	161	30.15	234	16.94	187	26
6,324	392	—		—		N.A.	N.A.	N.A.	—		—		—		20
23,300	166	3.4	267	9.6	275	6.89	(2.45)	5.56	2.17	290	61.33	81	16.89	189	28
37,200	106	3.1	300	17.5	81	6.62	0.36	0.98	21.09	31	16.82	320	35.95	16	41
32,600	123	13.9	7	18.5	64	6.10	5.61	2.40	9.78	147	10.10	365	3.78	411	42
29,427	135	0.6	413	1.5§	411	0.68	(2.43)	3.76	(15.72)	380	(0.59)	413	13.04	267	30
31,317	127	15.5	2	23.8	20	5.89	5.51	0.89	20.84	34	(14.28)	450	19.73	147	42
28,700†	141	—		—		(4.76)	(5.60)	4.39	—		21.15	300	7.38	370	33
42,000	84	6.5	100	14.1	158	2.51	2.20	1.78	3.50	268	9.89	366	2.25	423	42
35,522	111	—		—		(0.61)	5.54	1.35	—		2.17	402	3.63	414	45
29,200	137	15.1	4	21.6	31	6.13	5.42	2.26	10.49	136	5.43	388	0.83	431	42
38,700	100	5.5	142	13.7	171	2.21	2.75	2.34	(0.57)	333	1.40	405	(2.93)	447	43
17,400†	212	—		—		(8.33)**	(24.77)	5.27	—		101.43	14	8.80	346	33
53,000	65	3.0	312	7.4	335	3.10	1.85	3.05	0.16	323	30.87	222	12.46	284	22
41,000	88	3.0	309	7.1	346	2.40	2.30	2.65	(0.99)	337	44.95	138	11.81	296	45
46,300	73	10.2	31	11.5	222	14.87	12.62	1.00	30.98	6	29.28	237	40.18	10	45
35,000	114	0.3	423	—		(0.28)‡	3.31**	1.56	—		—		—		20
34,328	117	11.9	18	24.5	17	2.86	2.37	0.42	21.18	30	19.25	308	24.51	79	42
41,707	85	3.2	284	9.5	280	3.06	(6.74)	3.23	(0.53)	332	72.66	47	18.45	160	36
34,500	116	3.9	235	10.1	261	2.04	0.95	1.32	4.47	251	25.53	260	21.33	121	40
17,000†	216	—		—		(1.75)	(2.68)	1.08	—		34.55	198	12.74	276	33
26,000	152	2.0	363	3.6	398	1.41	1.29	2.88	(6.89)	366	43.13	145	5.43	388	26
22,800†	167	3.2	286	11.5	224	3.05	0.98	1.55	6.97	214	0.53	408	9.02	341	32
44,000	76	7.1	83	18.5	66	4.61	3.05	0.27	32.69	3	12.53	349	30.33	33	23
18,665	199	3.2	282	7.7	327	2.54	(4.86)	4.26	(5.04)	356	28.09	241	5.45	387	26
25,250†	154	—		—		(19.68)	(14.78)	5.36	—		84.80	25	9.37	336	33
25,200	155	2.1	358	8.2§	310	2.66	4.76	2.04	2.69	278	42.39	152	11.99	293	20
22,627	169	6.3	107	17.1	87	4.58	3.83	2.41	6.63	217	15.09	333	12.20	289	36
24,221	161	6.6	97	13.5	174	3.17	2.22	2.18	3.82	260	34.41	199	5.11	393	28
17,000	217	1.6	380	4.9	385	1.49**	(3.29)	1.77	(1.73)	343	112.00	12	19.41	152	26
51,650	67	3.3	274	8.4§	308	5.22	7.23	3.83	3.14	274	13.74	340	16.21	209	23

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSA	
151	123	**Penn Central** (New York)	**2,538,900**	**2,873,600**	108	**19,700**	365	**1,441,400**	96
152	157	**Swift Independent** (Chicago)[14]	**2,534,600**	**289,664**	463	**21,997**	354	**117,366**	463
153	112	**Tosco** (Santa Monica, Calif.)	**2,494,200**	**953,500**	268	**(378,098)**	483	**(64,047)**	497
154	176	**Times Mirror** (Los Angeles)	**2,478,533**	**2,384,531**	136	**199,580**	76	**1,120,389**	134
155	155	**Singer** (Stamford, Conn.)	**2,478,400**	**1,420,300**	206	**31,600****	305	**435,400**	277
156	167	**Scott Paper** (Philadelphia)	**2,465,088**	**2,723,156**	120	**123,679**	115	**1,463,551**	93
157	151	**Murphy Oil** (El Dorado, Ark.)	**2,388,491**	**2,807,837**	116	**131,907**	112	**986,217**	154
158	164	**Kellogg** (Battle Creek, Mich.)	**2,381,100**	**1,467,200**	203	**242,700**	65	**977,900**	158
159	165	**Revlon** (New York)	**2,378,867**	**2,215,330**	147	**111,203**	127	**903,069**	170
160	142	**Allegheny International** (Pittsburgh)	**2,347,858**	**1,939,813**	167	**28,305**	318	**338,551**	318
161	150	**Kidde** (Saddle Brook, N.J.)	**2,330,105¶**	**1,686,096**	182	**(123,799)**	470	**603,062**	219
162	202	**ConAgra** (Omaha)[12]	**2,319,973**	**901,514**	277	**47,770**	238	**273,332**	350
163	169	**Pennzoil** (Houston)	**2,316,833**	**3,584,255**	87	**164,235**	98	**1,229,045**	114
164	161	**AMAX** (Greenwich, Conn.)	**2,290,100**	**4,447,700**	66	**(489,000)**	487	**1,634,700**	85
165	144	**Ingersoll-Rand** (Woodcliff Lake, N.J.)	**2,274,075**	**2,311,164**	139	**(112,166)**	468	**1,030,561**	147
166	232	**National Distillers & Chemical** (New York)	**2,266,800***	**1,973,000**	163	**66,700**	188	**986,000**	155
167	177	**Grumman** (Bethpage, N.Y.)	**2,220,162**	**1,087,703**	247	**110,746**	129	**442,402**	275
168	179	**General Tire & Rubber** (Akron, Ohio)[20]	**2,184,351**	**1,852,553**	171	**67,427**	185	**941,232**	162
169	172	**Gillette** (Boston)	**2,183,297**	**1,696,144**	180	**145,876**	105	**757,427**	191
170	178	**American Standard** (New York)	**2,181,521**	**1,621,630**	190	**62,585**	199	**602,999**	220
171	173	**Wilson Foods** (Oklahoma City)[13]	**2,176,575**	**260,372**	473	**(42,877)**	454	**40,614**	491
172	206	**Williams Companies** (Tulsa)	**2,167,000**	**4,686,400**	59	**54,000**	217	**1,173,900**	122
173	189	**Fruehauf** (Detroit)	**2,129,375**	**1,596,101**	191	**8,382**	408	**503,202**	249
174	182	**Engelhard** (Edison, N.J.)	**2,099,337**	**889,287**	281	**73,519**	174	**456,258**	271
175	170	**McGraw-Edison** (Rolling Meadows, Ill.)	**2,093,726**	**1,519,668**	194	**33,373**	293	**571,973**	230
176	171	**American Petrofina** (Dallas)	**2,069,122**	**1,399,268**	210	**55,260**	210	**585,099**	227
177	183	**Mapco** (Tulsa)	**2,064,653**	**1,641,100**	187	**54,056**	216	**642,806**	207
178	184	**White Consolidated Industries** (Cleveland)	**2,057,958**	**1,314,857**	214	**51,783**	226	**594,467**	226
179	●	**Avco** (Greenwich, Conn.)[20]	**2,044,053**	**6,388,277**	40	**102,686**	138	**1,137,947**	129
180	186	**Uniroyal** (Middlebury, Conn.)	**2,040,285**	**1,486,030**	200	**66,998****	187	**672,368**	201
181	185	**Jim Walter** (Tampa, Fla.)[21]	**2,025,160**	**2,608,686**	128	**70,572**	179	**746,988**	193
182	191	**Upjohn** (Kalamazoo, Mich.)	**1,986,106**	**2,195,048**	148	**160,225**	101	**1,057,288**	141
183	166	**Northwest Industries** (Chicago)	**1,975,500¶**	**1,811,100**	176	**(80,400)**	461	**602,800**	221
184	190	**Sherwin-Williams** (Cleveland)	**1,973,485**	**939,843**	271	**55,412**	208	**370,970**	302
185	193	**Olin** (Stamford, Conn.)	**1,934,579**	**1,829,416**	173	**71,715**	175	**848,355**	179
186	195	**J.P. Stevens** (New York)[14]	**1,926,137**	**1,164,039**	234	**18,901**	368	**560,982**	232
187	175	**Ogden** (New York)	**1,918,158¶**	**1,052,839**	253	**52,977**	221	**358,182**	309
188	196	**Sterling Drug** (New York)	**1,901,171**	**1,470,485**	202	**136,844**	109	**912,700**	168
189	192	**Rohm & Haas** (Philadelphia)	**1,875,937**	**1,511,244**	196	**137,603**	108	**904,393**	169
190	162	**Cooper Industries** (Houston)	**1,850,280**	**1,949,447**	164	**71,169**	177	**1,250,649**	110
191	209	**Baxter Travenol Laboratories** (Deerfield, Ill.)	**1,842,544**	**2,127,037**	153	**218,055**	70	**1,151,109**	124
192	156	**Baker International** (Orange, Calif.)[10]	**1,837,587**	**2,159,595**	152	**(63,518)**	458	**1,044,095**	144
193	188	**SCM** (New York)[2]	**1,813,217**	**1,112,678**	240	**24,454**	337	**505,671**	248
194	194	**Schering-Plough** (Kenilworth, N.J.)	**1,808,500**	**2,397,400**	135	**190,100**	83	**1,268,000**	108
195	210	**Squibb** (Princeton, N.J.)	**1,768,891**	**1,945,765**	165	**172,707**	90	**1,231,381**	113
196	180	**Superior Oil** (Houston)	**1,765,118**	**5,266,963**	51	**241,755**	66	**2,467,790**	53
197	216	**Ethyl** (Richmond, Va.)	**1,745,193**	**1,510,123**	197	**106,038**	134	**850,808**	178
198	181	**Gould** (Rolling Meadows, Ill.)	**1,740,600¶**	**1,487,700**	199	**64,100**	195	**885,100**	172
199	187	**Manville** (Denver)	**1,729,465**	**2,253,262**	143	**67,194**	186	**830,864**	182
200	198	**Central Soya** (Fort Wayne, Ind.)[21]	**1,721,956¶**	**551,817**	347	**25,199**	334	**307,893**	331

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[21] Figures are for fiscal year ended August 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
34,700	115	0.8	408	—		(0.48)	3.02	(119.33)	—		42.18	154	(3.61)	450	36
6,710	389	0.9	406	18.7	60	4.40	5.07	N.A.	—		19.20	309	—		20
1,870	489	—		—		(21.35)	5.99	0.28	—		(55.06)	463	(3.46)	449	29
28,174	145	8.1	60	17.8	77	2.90	2.04	0.81	13.53	86	23.45	279	20.47	138	27
55,000	61	1.3	396	7.3	340	1.52**	(0.49)**	5.32	(11.77)	374	45.92	133	0.07	436	36
17,000	218	5.0	169	8.0§	319	2.58	1.61	1.63	4.70	250	61.11	83	13.53	252	26
5,755	407	5.5	137	13.4	178	3.60	4.28	1.53	8.93	165	31.18	221	11.00	312	29
18,293	204	10.2	32	24.8	15	3.17	2.98	0.89	13.54	85	27.68	244	13.29	262	20
30,500	128	4.7	194	11.4§	226	2.81	2.45	1.65	5.47	240	15.17	331	4.64	401	43
36,700	108	1.2	399	—		(1.43)	0.21	3.53	—		22.06	291	11.71	300	36
32,000	126	—		—		(6.30)	4.02	1.79	—		40.37	166	20.79	132	47
15,330	227	2.1	359	16.7§	93	2.59	2.51	0.59	15.95	55	26.02	254	34.73	19	20
8,682	335	7.1	84	13.1§	186	3.03	3.60	1.62	6.46	221	3.06	398	13.32	260	29
13,371	246	—		—		(7.74)	(6.53)	2.67	—		10.11	364	0.28	434	10
32,289	125	—		—		(5.94)	2.35	4.91	—		39.18	171	0.22	435	45
13,071	251	2.9	314	5.8§	373	1.77	2.15	2.68**	(4.06)	351	20.71	301	16.38	206	28
28,800	139	5.0	176	23.8§	22	3.82	1.16	1.89**	7.29	208	4.04	395	26.00	63	41
34,000	119	3.1	301	7.1§	343	2.91	0.78	2.97	(0.20)	328	41.91	158	20.49	137	30
29,400	136	6.7	93	19.3	51	4.78	4.45	2.91	5.09	248	13.24	344	8.89	345	34
37,900	103	2.9	322	10.4	252	2.27	1.30	1.08	7.71	200	10.33	362	25.98	64	37
8,600	340	—		—		(7.31)	3.30**	N.A.	—		(9.09)	441	—		20
8,200	349	2.5	346	4.6	391	1.79	1.15	2.32	(2.58)	348	69.56	56	1.46	427	28
26,800	149	0.4	421	1.7	409	0.42	(2.47)	4.03	(20.24)	383	66.02	68	17.47	178	40
6,900	383	3.5	260	16.1	108	2.73	2.41	N.A.	—		21.24	298	—		28
28,400	142	1.6	383	5.8	372	2.02	3.51	2.14	(0.58)	334	10.51	360	14.48	230	36
2,594	487	2.7	336	9.4	282	5.10	5.03	4.03	2.38	287	(1.36)	420	12.49	282	29
6,075	400	2.6	338	8.4	306	1.85	2.67	1.05	5.83	232	9.68	367	3.37	416	29
22,800	168	2.5	345	8.2§	312	3.23	2.10	2.75	1.62	301	36.81	182	24.15	84	36
26,549	150	5.0	168	9.0	288	4.25	3.14**	(3.05)‡	—		16.12	324	20.62	134	41
20,607	183	3.3	279	10.0	266	2.03**	0.78	1.58	2.54	280	44.68	139	11.96	294	30
19,200	194	3.5	262	9.5	281	4.05	0.29	3.01	3.01	275	1.29	407	15.02	222	30
21,410	177	8.1	59	15.2	126	5.28	4.18	2.33	8.52	177	32.68	212	1.15	428	42
29,600	133	—		—		(4.23)	8.75	2.79	—		46.49	132	25.34	72	33
19,359	193	2.8	325	14.9	135	2.32	2.02	1.09	7.85	192	22.05	292	16.41	205	28
18,200	206	3.7	250	8.5	305	3.01	2.26	2.60	1.48	305	36.09	184	23.11	97	28
35,300	112	1.0	400	3.4	400	1.09	1.54	2.16	(6.62)	363	(1.40)	421	14.31	233	22
45,000†	75	2.8	329	14.8	141	2.77	3.13	1.63	5.42	241	14.02	337	19.70	148	37
23,447	165	7.2	81	15.0	132	2.24	2.17	1.29	5.67	236	25.49	261	4.07	409	42
11,379	278	7.3	78	15.2	125	5.33	3.31	2.58	7.53	203	59.62	85	8.69	349	28
29,838	131	3.9	241	5.7	376	1.29	2.76	1.01	2.48	282	26.71	252	15.97	213	36
34,036	118	11.8	19	18.9	55	1.54	1.32	0.24	20.56	36	(2.77)	427	7.70	362	42
20,552	185	—		—		(0.91)	3.60	0.29	—		(10.36)	445	7.68	363	45
24,500	160	1.4	392	4.8	388	2.55	3.01	2.00	2.46	284	27.20	246	21.70	116	28
24,500	159	10.5	26	14.8§	139	3.62	3.39	1.97	6.27	225	(1.13)	417	(2.88)	445	42
24,100	162	9.8	38	14.0	162	3.30	3.01	1.80	6.25	226	6.19	384	4.54	402	42
6,400	391	13.7	8	9.8	270	1.91	1.75	0.33	19.06	41	28.52	239	12.76	274	10
13,000	253	6.1	115	12.3§	202	2.61	2.34	1.25	7.60	202	78.47	35	20.83	131	28
20,651	182	3.7	252	7.2	341	1.42	2.15	1.89	(2.80)	349	(14.75)	451	15.37	219	36
20,560	184	3.9	237	8.1	318	1.76	(5.14)	3.04	(5.32)	358	7.32	379	1.76	425	32
7,872	362	1.5	390	8.2	314	1.68	1.28	1.69	(0.06)	327	(5.47)	432	2.85	419	20

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
201	199	**Harris** (Melbourne, Fla.)[2]	1,718,083¶	1,360,422	211	55,900	207	635,618	209
202	224	**Hershey Foods** (Hershey, Pa.)	1,706,105	983,944	262	100,166	141	596,037	225
203	229	**Gannett** (Rochester, N.Y.)	1,703,646	1,689,556	181	191,665	82	1,022,289	151
204	228	**Union Camp** (Wayne, N.J.)	1,688,254	2,381,204	137	132,736	111	1,197,189	121
205	201	**Emhart** (Farmington, Conn.)	1,685,600	1,018,100	258	84,300	162	511,900	245
206	211	**Chesebrough-Pond's** (Greenwich, Conn.)	1,685,417	1,171,910	232	127,878	113	649,945	205
207	219	**A.E. Staley Manufacturing** (Decatur, Ill.)[10]	1,679,420	1,207,212	224	13,688**	389	644,276	206
208	197	**Crown Central Petroleum** (Baltimore)	1,668,345	652,947	324	4,024	420	190,758	412
209	347	**James River Corp. of Virginia** (Richmond, Va.)[17]	1,656,112	1,152,117	237	55,148	214	344,294	314
210	226	**National Can** (Chicago)	1,647,563	880,819	282	22,107	351	339,493	317
211	235	**Pitney Bowes** (Stamford, Conn.)	1,642,389	1,473,017	201	86,934	160	600,331	223
212	223	**Air Products & Chemicals** (Allentown, Pa.)[10]	1,634,246	2,219,034	146	108,963	131	1,047,133	143
213	231	**American Hoechst** (Somerville, N.J.)[22]	1,624,729	1,240,287	222	35,511	285	659,761	204
214	242	**Hammermill Paper** (Erie, Pa.)	1,622,695	1,030,814	256	32,548	298	405,664	284
215	247	**U.S. Gypsum** (Chicago)	1,611,071	1,193,912	227	80,323	166	744,435	194
216	221	**Cummins Engine** (Columbus, Ind.)	1,604,723	1,258,733	220	5,160	415	500,900	252
217	222	**Corning Glass Works** (Corning, N.Y.)	1,589,400	1,774,600	177	92,200	153	1,032,700	145
218	237	**Tribune** (Chicago)	1,586,526	1,635,416	189	69,267	180	771,540	188
219	205	**Colt Industries** (New York)	1,576,183	1,177,123	229	99,255	143	466,831	266
220	212	**General Signal** (Stamford, Conn.)	1,574,948	1,314,413	215	89,698	154	845,972	180
221	208	**Koppers** (Pittsburgh)	1,565,670	1,175,414	230	30,588**	309	569,477	231
222	238	**Great Northern Nekoosa** (Stamford, Conn.)	1,565,000	1,817,800	174	84,000	163	902,200	171
223	244	**Lever Brothers** (New York)[23]	1,564,624	541,850	350	14,550	386	218,100	384
224	220	**Cabot** (Boston)[10]	1,558,016	1,310,097	216	64,162	193	675,595	200
225	258	**Pacific Resources** (Honolulu)	1,550,511	637,056	326	11,110	398	143,932	450
226	241	**R.R. Donnelley & Sons** (Chicago)	1,545,750	1,204,117	225	114,436	123	705,341	199
227	264	**Wang Laboratories** (Lowell, Mass.)[2]	1,538,000	1,681,800	184	152,000	103	937,800	163
228	256	**AMP** (Harrisburg, Pa.)	1,515,460	1,238,400	223	163,128	99	800,853	186
229	245	**Asarco** (New York)	1,512,236	2,227,130	145	58,329	203	1,024,657	149
230	294	**Alumax** (San Mateo, Calif.)	1,510,188	1,511,848	195	71,438	176	661,557	203
231	295	**Morton Thiokol** (Chicago)[2,24]	1,509,157	1,151,349	238	78,462	170	550,453	235
232	236	**Westvaco** (New York)[14]	1,493,412	1,488,420	198	62,789	198	824,666	184
233	225	**Joseph E. Seagram & Sons** (New York)[26,27]	1,484,342*	4,473,197	63	185,243	86	[illegible]62	48
234	246	**Knight-Ridder Newspapers** (Miami)	1,473,369	1,179,929	228	119,435	116	807,979	185
235	203	**Marmon Group** (Chicago)	1,467,059	1,092,864	245	42,292	258	400,766	286
236	233	**Lear Siegler** (Santa Monica, Calif.)[2]	1,464,190	894,898	279	64,122	194	482,093	257
237	200	**International Minerals & Chemical** (Northbrook, Ill.)[2]	1,462,000	1,943,900	166	80,500	165	1,024,100	150
238	230	**Gold Kist** (Atlanta)[2]	1,461,424	433,692	397	N.A.[16]		103,989	470
239	174	**NL Industries** (New York)	1,445,884	1,927,273	169	(107,402)	466	985,109	156
240	252	**Armstrong World Industries** (Lancaster, Pa.)	1,439,094	955,066	267	63,126	196	619,918	212
241	239	**Geo. A. Hormel** (Austin, Minn.)[14]	1,417,705	512,559	359	27,897	321	263,861	355
242	259	**PACCAR** (Bellevue, Wash.)	1,412,042	895,577	278	40,042	265	604,417	218
243	234	**Farmers' Union Central Exchange** (St. Paul)[10]	1,409,085	689,655	315	N.A.[16]		301,691	338
244	207	**Anderson Clayton** (Houston)[2]	1,390,402	866,260	284	21,661	356	558,400	233
245	249	**Witco Chemical** (New York)	1,385,744	732,851	302	52,022	225	336,713	319
246	257	**Zenith Radio** (Glenview, Ill.)	1,361,300	739,000	299	46,300	243	375,200	299
247	253	**Mid-America Dairymen** (Springfield, Mo.)	1,356,622	306,510	458	N.A.[16]		105,182	469
248	272	**Mattel** (Hawthorne, Calif.)[27]	1,341,914	756,963	297	42,390	257	274,571	349
249	213	**Stauffer Chemical** (Westport, Conn.)[10]	1,339,947	2,048,018	160	(1,719)**	431	1,024,820	148
250	296	**Monfort of Colorado** (Greeley, Colo.)[21]	1,324,022	198,738	486	16,102	378	67,513	484

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[22] Wholly owned by Hoechst AG.

[23] Wholly owned by Unilever.

[24] Name changed from Morton-Norwich Products September 24, 1982.

[25] Figure is for Morton-Norwich.

[26] Wholly owned by Seagram.

[27] Figures are for fiscal year ended January 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
22,200	170	3.3	280	8.8	296	1.78	2.42	0.65	10.60	132	10.82	359	22.58	103	36
14,310	238	5.9	120	16.8	90	3.20	3.00	0.55	19.26	38	16.10	325	23.68	89	20
27,000	148	11.3	20	18.8	59	2.40	2.26	0.63	14.37	75	(4.26)	429	13.81	245	27
17,274	214	7.9	63	11.1	232	5.45	5.10	2.67	7.38	206	41.91	157	12.27	287	26
29,500	134	5.0	172	16.5	99	3.37	3.26	1.06	12.26	104	44.29	142	25.37	71	45
22,056	172	7.6	69	19.7	49	3.58	3.56	1.24	11.18	117	(13.41)	449	6.13	381	43
4,517	450	0.8	407	1.8§	408	0.47**	2.75	0.49	(0.48)	331	30.53	229	23.09	98	20
5,715	409	0.2	426	1.5§	412	0.44	0.92	1.75	(12.89)	375	32.21	214	19.52	150	29
18,500	201	3.3	275	15.8§	114	2.69	1.30	0.21	29.09	8	41.42	159	36.48	15	26
10,541†	289	1.3	393	6.1§	369	2.13	3.35	1.84	1.47	306	25.54	259	18.67	157	34
26,468	151	5.3	154	14.5	150	2.23	2.16	(0.88)	—		46.51	131	29.84	38	44
16,700	221	6.7	94	10.4	251	3.55	5.94	0.86	15.18	68	25.15	263	10.77	317	28
8,596	341	2.2	356	5.4	381	N.A.	N.A.	N.A.	—		—		—		28
12,200	268	2.0	362	7.1§	345	3.25	3.49	2.34	3.34	270	55.49	98	16.49	202	26
16,100†	223	5.0	177	10.8	240	4.77	2.61	2.90	5.10	247	22.18	289	21.10	127	32
18,615	200	0.3	424	0.7§	419	0.36	0.21	3.84	(21.08)	384	69.23	57	14.91	223	45
27,647	146	5.8	124	8.9	290	4.38	3.52	4.00	0.91	311	9.40	369	2.50	421	32
18,700†	198	4.4	209	9.0	289	1.89	0.67	N.A.	—		—		—		27
22,100	171	6.3	105	21.3	35	4.01	(6.37)	1.14	13.44	87	79.03	32	33.21	23	45
23,530	164	5.7	131	10.6	245	3.16	3.85	1.25	9.67	151	16.84	319	10.47	319	38
14,518†	233	2.0	365	4.1§	393	0.81**	(1.67)	1.28	(4.51)	353	40.94	164	13.25	263	28
12,400†	265	5.4	149	9.3	285	3.25	3.21	1.34	9.28	160	73.94	45	18.27	162	26
5,000	431	0.9	403	6.7	358	N.A.	N.A.	N.A.	—		—		—		43
7,200	377	4.1	223	9.5	276	2.00	2.77	0.67	11.50	114	24.17	273	23.22	95	28
818	495	0.7	409	7.7	329	0.71	0.73	0.47	4.30	255	30.54	228	11.40	304	29
16,500†	222	7.4	74	16.2	105	3.00	2.40	0.82	13.78	83	32.17	215	16.94	186	27
21,700†	174	9.9	36	16.2	106	1.16	0.88	0.04	39.12	2	21.17	299	45.79	3	44
21,300	178	10.8	24	20.4	41	4.55	3.31	1.23	13.98	81	70.24	55	13.39	258	36
9,900†	302	3.9	239	3.9§	396	1.54	(3.88)‡	4.25	(9.65)	371	4.38	393	7.49	366	33
12,059	252	4.7	189	10.8	238	N.A.	N.A.	N.A.	—		—		—		33
16,800	220	5.2	159	14.3	153	5.15	10.13[25]	1.89[25]	10.54	133	57.57	92	20.50	136	28
14,910	229	4.2	217	7.6	330	2.30	2.40	1.80	2.46	285	55.36	99	13.99	241	26
10,200	295	12.5	14	6.9	352	N.A.	N.A.	N.A.	—		—		—		49
22,040	173	8.1	58	14.8	143	1.80	1.57	0.53	13.06	95	9.23	370	18.14	164	27
16,000	224	2.9	319	8.5§	302	N.A.	N.A.	N.A.	—		—		—		33
20,004	188	4.4	208	13.3	179	3.84	4.36	0.91	15.49	64	34.62	197	30.73	31	38
8,400	343	5.5	139	7.9	322	3.02	5.13	1.09	10.78	126	43.11	147	14.72	225	10
9,002	325	—		—		N.A.	N.A.	N.A.	—		—		—		20
12,775	256	—		—		(1.80)	2.90	0.97	—		(8.84)	440	16.86	191	28
19,835†	190	4.4	206	10.2	259	2.53	0.79	2.15	1.64	299	16.06	326	7.58	364	22
6,765	388	2.0	364	10.6	246	2.90	2.92	0.77	14.18	78	13.78	339	18.69	156	20
9,146	323	2.8	324	6.6	360	2.21	2.05	2.36	(0.67)	335	42.98	149	18.65	158	40
2,962†	480	—		—		N.A.	N.A.	N.A.	—		—		—		29
12,631	257	1.6	386	3.9	395	1.75	4.47	1.16‡	4.20	257	11.48	354	16.10	211	20
8,155	351	3.8	246	15.5	118	3.60	2.10	1.39	9.98	143	99.15	15	23.25	94	29
30,000	130	3.4	268	12.3	200	2.26	(1.15)	2.90	(2.46)	347	77.50	39	8.46	354	36
3,050	477	—		—		N.A.	N.A.	N.A.	—		—		—		20
14,500†	235	3.2	293	15.4	119	1.78	1.68	(1.97)	—		(68.57)	465	9.06	340	47
9,709	307	—		—		(0.04)**	2.81	1.17	—		13.72	341	14.02	240	28
3,477	472	1.2	397	23.9	19	3.48	3.84**	0.21	32.41	4	10.28	363	13.66	250	20

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
251	255	**Johnson Controls** (Milwaukee)[10]	**1,323,424**	**926,025**	272	**59,041**	202	**418,523**	281
252	273	**Mobay Chemical** (Pittsburgh)[28]	**1,305,500**	**1,167,900**	233	**36,200**	279	**527,800**	241
253	217	**Allis-Chalmers** (West Allis, Wis.)	**1,300,327**	**1,054,178**	250	**(133,232)**	472	**294,934**	339
254	243	**Crown Cork & Seal** (Philadelphia)	**1,298,001**	**821,715**	291	**51,541**	227	**544,297**	240
255	262	**McGraw-Hill** (New York)	**1,295,175**	**1,052,873**	252	**126,478**	114	**616,622**	214
256	250	**Polaroid** (Cambridge, Mass.)	**1,254,500**	**1,319,100**	213	**49,700**	232	**921,600**	166
257	265	**Louisiana Land & Exploration** (New Orleans)	**1,244,700**	**1,681,600**	185	**94,000**	148	**634,600**	210
258	248	**Blue Bell** (Greensboro, N.C.)[10]	**1,228,973**	**708,874**	307	**47,562**	239	**454,504**	272
259	●	**Mack Trucks** (Allentown, Pa.)	**1,216,830**	**972,995**	263	**(26,175)**	450	**545,208**	239
260	274	**Brunswick** (Skokie, Ill.)	**1,216,248**	**817,014**	292	**66,129**	189	**376,382**	297
261	279	**National Semiconductor** (Santa Clara, Calif.)[12]	**1,210,499**	**847,287**	287	**(14,176)**	445	**335,679**	320
262	278	**West Point-Pepperell** (West Point, Ga.)[21]	**1,206,304**	**710,626**	306	**52,327**	224	**424,718**	279
263	261	**Tektronix** (Beaverton, Ore.)[12]	**1,191,380**	**1,087,414**	248	**48,714**	237	**661,695**	202
264	240	**Amstar** (New York)[2]	**1,191,135**	**604,658**	333	**22,383**	347	**391,489**	293
265	251	**Black & Decker Manufacturing** (Towson, Md.)[10]	**1,167,752**	**985,358**	261	**44,151**	250	**554,416**	234
266	280	**Libbey-Owens-Ford** (Toledo)	**1,167,652**	**838,106**	290	**40,370**	263	**493,001**	255
267	218	**Hughes Tool** (Houston)	**1,157,341**	**2,098,237**	156	**(90,873)**	463	**1,125,341**	132
268	323	**G. Heileman Brewing** (La Crosse, Wis.)	**1,150,965***	**530,301**	353	**56,969**	205	**239,315**	371
269	287	**Square D** (Palatine, Ill.)	**1,144,137**	**945,018**	270	**62,911**	197	**505,970**	246
270	308	**National Gypsum** (Dallas)	**1,130,868**	**865,918**	286	**53,792**	219	**524,484**	242
271	254	**Norton** (Worcester, Mass.)	**1,127,780**	**1,043,045**	254	**45,384**	244	**616,616**	215
272	315	**Intel** (Santa Clara, Calif.)	**1,121,943**	**1,679,650**	186	**116,111**	121	**1,121,740**	133
273	277	**Becton Dickinson** (Paramus, N.J.)[10]	**1,119,520**	**1,106,605**	243	**35,930**	280	**597,710**	224
274	268	**International Multifoods** (Minneapolis)[8]	**1,118,242**	**464,060**	384	**35,493**	286	**216,788**	386
275	266	**Federal Co.** (Memphis)[12]	**1,115,896**	**321,839**	454	**25,707**	331	**197,792**	406
276	276	**Richardson-Vicks** (Wilton, Conn.)[2]	**1,115,700**	**961,400**	266	**51,400**	228	**471,300**	262
277	350	**Miles Laboratories** (Elkhart, Ind.)[28]	**1,115,406**	**985,774**	260	**35,455**	287	**496,567**	254
278	312	**Adolph Coors** (Golden, Colo.)	**1,110,406***	**1,155,696**	236	**89,261**	155	**860,219**	177
279	322	**Louisiana-Pacific** (Portland, Ore.)	**1,101,980**	**1,265,000**	219	**27,920**	320	**729,000**	197
280	319	**VF** (Wyomissing, Pa.)	**1,100,956**	**567,161**	343	**119,401**	117	**399,911**	287
281	307	**New York Times** (New York)	**1,091,302**	**774,189**	296	**78,668**	169	**413,107**	283
282	271	**BOC** (Montvale, N.J.)[10,29]	**1,080,444**	**1,682,972**	183	**48,796**	236	**1,008,696**	152
283	298	**U.S. Industries** (Stamford, Conn.)	**1,075,637**	**689,141**	317	**33,710**	291	**395,402**	290
284	328	**Trane** (La Crosse, Wis.)	**1,072,958**	**669,727**	322	**32,575**	297	**305,714**	333
285	304	**BASF Wyandotte** (Parsippany, N.J.)[30]	**1,060,600**	**726,400**	303	**16,800‡**	374	**306,300**	332
286	330	**Masco** (Taylor, Mich.)	**1,059,450**	**1,271,410**	217	**106,560**	133	**728,800**	198
287	310	**Willamette Industries** (Portland, Ore.)	**1,045,66[illegible]**	**924,692**	273	**22,272**	348	**399,802**	288
288	333	**CertainTeed** (Valley Forge, Pa.)	**1,041,082**	**744,742**	298	**33,207**	295	**387,999**	294
289	267	**Parker Hannifin** (Cleveland)[2]	**1,038,289**	**776,527**	295	**29,487**	314	**454,079**	273
290	321	**Cyclops** (Pittsburgh)	**1,024,114**	**477,763**	374	**(2,190)**	433	**172,685**	428
291	289	**Perkin-Elmer** (Norwalk, Conn.)[13]	**1,015,402**	**891,713**	280	**50,242**	230	**515,245**	244
292	290	**Dover** (New York)	**1,009,674**	**704,446**	309	**77,543**	171	**502,657**	251
293	313	**Thomas J. Lipton** (Englewood Cliffs, N.J.)[23]	**1,005,654**	**636,590**	327	**64,547**	192	**376,023**	298
294	275	**Crane** (New York)	**1,002,772¶**	**575,916**	340	**(109,060)**	467	**253,217**	363
295	338	**NVF** (Yorklyn, Del.)	**1,000,000**	**N.A.**		**N.A.**		**N.A.**	
296	288	**G.D. Searle** (Skokie, Ill.)	**997,600**	**1,342,800**	212	**151,200**	104	**732,800**	196
297	263	**Chromalloy American** (St. Louis)	**997,467¶**	**735,324**	300	**(42,223)**	453	**276,839**	347
298	299	**Stanley Works** (New Britain, Conn.)	**983,694**	**703,566**	310	**52,953**	222	**435,431**	276
299	411	**Apple Computer** (Cupertino, Calif.)[10]	**982,769**	**556,579**	345	**76,714**	172	**377,901**	296
300	301	**Phelps Dodge** (New York)	**977,383**	**1,936,119**	168	**(63,497)**	457	**981,029**	157

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[28] Wholly owned by Bayer AG.

[29] Name changed from Airco October 1, 1983; wholly owned by BOCGroup plc.

[30] Wholly owned by BASF AG.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
20,700	181	4.5	202	14.1	159	4.17	3.83	1.05	14.73	72	40.11	167	26.50	58	36
5,732	408	2.8	328	6.9	355	N.A.	N.A.	N.A.	—		—		—		28
17,305†	213	—		—		(11.14)	(17.24)	1.30	—		70.51	53	10.69	318	45
12,482	263	4.0	232	9.5	278	3.83	3.15	1.81	7.78	198	26.69	253	5.09	394	34
13,726	242	9.8	37	20.5	39	2.52	2.20	0.51‡	17.32	45	15.16	332	33.49	22	27
13,871	241	4.0	233	5.4	380	1.61	0.73	1.58	0.19	322	36.63	183	(4.55)	452	38
1,504	492	7.6	71	14.8	140	2.65	2.01	1.94	3.17	272	64.20	72	0.46	433	10
27,000	147	3.9	238	10.5	249	3.73	2.92	1.25	11.51	113	31.49	220	25.15	74	23
12,574	259	—		—		(0.97)	N.A.	N.A.	—		—		—		37
18,400	202	5.4	144	17.6	79	2.94	6.84	1.13	10.03	141	135.20	6	19.56	149	45
35,640	110	—		—		(0.60)	(0.47)	0.64	—		113.07	11	12.39	286	36
21,500	176	4.3	210	12.3	201	5.10	4.27	1.88	10.52	134	39.54	169	23.21	96	22
21,078	180	4.1	224	7.4	337	2.57	4.25	0.96	10.35	138	30.74	224	14.49	229	38
8,033†	357	1.9	373	5.7	375	2.34	4.31	1.63	3.65	263	90.15	20	22.20	108	20
14,500	234	3.8	244	8.0	321	1.02	(1.82)	0.87	1.64	298	48.39	127	0.64	432	45
15,805	225	3.5	266	8.2	313	3.18	1.01	5.15	(4.71)	354	32.75	210	12.16	290	32
12,500	261	—		—		(1.64)	2.65	0.45	—		(1.85)	424	5.71	385	45
6,200	396	5.0	179	23.8	21	2.15	1.72	0.23	24.91	17	51.95	109	40.58	9	49
21,200	179	5.5	140	12.4	197	2.22	2.61	1.45	4.35	252	22.16	290	10.04	326	36
12,390	266	4.8	188	10.3	257	3.29	0.89	1.93	5.48	239	43.12	146	20.58	135	32
19,000	196	4.0	229	7.4	338	2.45	1.13	1.97	2.20	288	20.31	306	16.90	188	32
21,500	175	10.4	29	10.4	256	1.05	0.32	0.13	23.65	19	116.77	8	25.59	69	36
19,100	195	3.2	283	6.0	370	1.71	3.63	1.45	1.66	297	(10.82)	446	1.80	424	38
7,622	368	3.2	292	16.3§	104	4.32	4.07	1.39	11.97	109	8.87	373	16.74	194	20
13,000	254	2.3	352	13.0	187	3.13	2.14	2.55	2.07	291	13.95	338	20.32	142	20
10,700	288	4.6	196	10.9	236	2.10	2.74	1.75	1.84	295	5.94	386	6.38	379	42
12,177	269	3.2	291	7.1	344	N.A.	N.A.	N.A.	—		—		—		42
9,300	316	8.0	61	10.4	253	2.55	1.15	N.A.	—		68.16	60	—		49
13,000	255	2.5	342	3.8	397	0.84	(0.05)	2.11	(8.80)	370	(6.65)	437	9.10	339	26
24,800	157	10.9	22	29.9	7	3.64	2.81	0.52	21.54	25	56.34	95	27.51	50	23
8,400	344	7.2	80	19.0	54	2.02	1.44	0.52	14.53	73	48.93	122	27.66	46	27
10,800	286	4.5	199	4.8§	389	N.A.	N.A.	N.A.	—		—		—		28
14,462	236	3.1	297	8.5	301	1.48	1.20	1.87	(2.33)	344	61.72	80	16.29	207	45
12,500	262	3.0	307	10.7	243	3.16	2.28	1.41	8.37	180	53.76	104	16.46	203	45
3,875	465	1.6	384	5.5	378	N.A.	N.A.	N.A.	—		—		—		28
12,000	271	10.1	34	14.6	146	1.93	1.78	0.45	15.61	62	20.49	303	13.41	257	34
8,070	356	2.1	357	5.6	377	1.46	(0.60)	2.27	(4.33)	352	1.32	406	14.26	235	26
8,665	338	3.2	288	7.9§	323	1.73	(0.86)	2.20	(2.37)	345	9.46	368	7.49	367	32
18,346	203	2.8	323	6.5	364	1.17	2.31	1.15	0.20	321	71.44	49	16.69	196	34
8,300	347	—		—		(0.72)	(3.60)	2.44	—		95.23	17	20.04	144	33
14,372	237	5.0	180	9.8	271	1.15	1.45	0.45	9.72	149	5.29	389	7.44	368	38
13,498	244	7.7	67	15.4	120	2.18	2.52	0.49	16.01	53	0.31	409	26.59	57	45
5,392†	423	6.4	101	17.2	85	N.A.	N.A.	N.A.	—		—		—		20
10,873	285	—		—		(10.70)	(0.32)	1.64	—		35.68	189	22.53	104	33
N.A.		—		—		N.A.	(0.97)	0.22	—		23.08	281	21.71	115	33
10,000	300	15.2	3	20.6	38	3.04	2.77	1.24	9.38	158	6.09	385	8.09	359	42
12,090	270	—		—		(3.05)	(3.06)	2.18	—		25.68	257	5.43	389	34
13,925†	240	5.4	148	12.2	204	1.92	1.40	0.98	6.92	215	14.41	335	16.54	200	34
4,645	445	7.8	64	20.3	44	1.28	1.06	N.A.	—		(18.41)	454	—		44
9,151	321	—		—		(2.76)	(3.59)	5.30	—		(10.22)	444	(1.92)	442	33

RANK		**COMPANY**	**SALES**	**ASSETS**		**NET INCOME**		**STOCKHOLDERS' EQUITY**	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
301	303	**Pennwalt** (Philadelphia)	**976,741**	**872,524**	283	**44,796**	247	**478,619**	258
302	302	**General Instrument** (New York)[8]	**974,317**	**812,268**	293	**102,181**	139	**602,561**	222
303	269	**AMF** (White Plains, N.Y.)	**970,519**	**911,640**	276	**(1,494)****	430	**468,589**	264
304	329	**Hartmarx** (Chicago)[20,31]	**961,846**	**542,844**	349	**37,615**	275	**271,703**	351
305	285	**Mitchell Energy & Development** (The Woodlands, Tex.)[27]	**961,713**	**1,874,887**	170	**80,303**	167	**457,087**	270
306	324	**Tyler** (Dallas)	**960,923**	**500,233**	363	**18,449**	370	**175,189**	425
307	270	**Cameron Iron Works** (Houston)[2]	**955,864**	**1,140,643**	239	**3,335**	424	**546,351**	236
308	291	**Ex-Cell-O** (Troy, Mich.)[20]	**953,803**	**689,627**	316	**49,815**	231	**427,335**	278
309	306	**Hanson Industries** (Iselin, N.J.)[10,32]	**939,282**	**375,391**	427	**20,996**	362	**152,903**	442
310	293	**Timken** (Canton, Ohio)	**937,320**	**1,107,727**	242	**530**	428	**776,574**	187
311	318	**National Service Industries** (Atlanta)[21]	**936,350**	**494,188**	367	**55,374**	209	**334,380**	321
312	317	**General Cinema** (Chestnut Hill, Mass.)[14]	**928,566**	**619,157**	332	**98,519**	144	**259,096**	358
313	327	**Lone Star Industries** (Greenwich, Conn.)	**918,769**	**1,418,449**	207	**21,235****	361	**492,130**	256
314	326	**Clorox** (Oakland, Calif.)[2]	**913,807**	**603,875**	334	**65,507**	190	**325,998**	325
315	316	**Ball** (Muncie, Ind.)	**909,541**	**558,808**	344	**38,970**	270	**262,091**	356
316	300	**Sundstrand** (Rockford, Ill.)	**909,318**	**916,712**	275	**44,240**	249	**500,399**	253
317	335	**Potlatch** (San Francisco)	**906,745**	**1,156,023**	235	**40.467**	262	**545,398**	237
318	341	**EG&G** (Wellesley, Mass.)	**904,237**	**339,210**	443	**46,645**	241	**215,208**	390
319	309	**Quaker State Oil Refining** (Oil City, Pa.)	**902,690**	**551,671**	348	**36,574**	278	**283,571**	344
320	320	**Springs Industries** (Fort Mill, S.C.)	**894,443**	**602,198**	335	**37,051**	276	**419,049**	280
321	281	**Fairchild Industries** (Germantown, Md.)	**891,592**	**948,412**	269	**28,405**	316	**245,306**	367
322	283	**Storage Technology** (Louisville, Colo.)	**886,626**	**1,265,884**	218	**(40,867)**	452	**503,069**	250
323	342	**Washington Post** (Washington)	**877,714**	**570,676**	342	**68,394**	184	**318,890**	327
324	•	**Lafarge** (Dallas)	**867,874**	**1,028,531**	257	**(13,080)**	444	**404,174**	285
325	325	**Cluett Peabody** (New York)	**866,485**	**443,313**	392	**26,829**	328	**229,309**	377
326	360	**Dow Jones** (New York)	**866,437**	**700,207**	312	**114,224**	124	**416,814**	282
327	292	**Clark Equipment** (Buchanan, Mich.)	**862,247**	**845,770**	288	**12,414**	393	**476,681**	259
328	311	**CF Industries** (Long Grove, Ill.)	**862,048**	**1,013,497**	259	**N.A.**[16]		**471,831**	260
329	414	**Fleetwood Enterprises** (Riverside, Calif.)[17]	**858,025**	**282,620**	466	**29,740**	312	**160,857**	435
330	371	**A.O. Smith** (Milwaukee)	**853,372**	**437,608**	394	**13,628**	390	**206,110**	400
331	297	**Harsco** (Wormleysburg, Pa.)	**839,085**	**688,229**	318	**27,586**	323	**391,766**	291
332	349	**Interlake** (Oak Brook, Ill.)	**835,041**	**673,930**	320	**22,824**	344	**327,401**	324
333	357	**Dean Foods** (Franklin Park, Ill.)	**834,154**	**247,518**	476	**22,116**	350	**108,736**	466
334	377	**Tecumseh Products** (Tecumseh, Mich.)	**829,348**	**516,388**	356	**55,197**	212	**398,594**	289
335	339	**Data General** (Westboro, Mass.)[10]	**828,904**	**844,886**	289	**23,135**	342	**468,998**	263
336	337	**Brockway** (Brockway, Pa.)	**828,711**	**437,582**	395	**204**	429	**213,108**	392
337	260	**CBI Industries** (Oak Brook, Ill.)	**828,173**	**917,052**	274	**44,110**	251	**465,436**	267
338	355	**E-Systems** (Dallas)	**826,819**	**370,603**	430	**55,246**	211	**238,333**	373
339	362	**Vulcan Materials** (Birmingham, Ala.)	**820,519**	**734,715**	301	**54,182**	215	**460,095**	269
340	353	**Household Manufacturing** (Prospect Heights, Ill.)[33]	**807,500**	**671,300**	321	**22,000**	353	**445,000**	274
341	365	**Avery International** (Pasadena, Calif.)[20]	**805,223**	**469,487**	377	**34,230**	290	**241,067**	370
342	305	**Rexnord** (Milwaukee)[14]	**804,513**	**707,509**	308	**3,927**	421	**364,652**	305
343	340	**Lubrizol** (Wickliffe, Ohio)	**789,546**	**682,864**	319	**64,744**	191	**471,521**	261
344	346	**Outboard Marine** (Waukegan, Ill.)[10]	**788,501**	**649,107**	325	**39,266**	266	**345,919**	313
345	364	**Todd Shipyards** (New York)[9]	**788,181**	**347,684**	439	**30,170**	311	**124,370**	460
346	356	**Freeport-McMoRan** (New York)	**786,151**	**1,418,020**	208	**93,472**	150	**735,147**	195
347	433	**Fort Howard Paper** (Green Bay, Wis.)[34]	**785,976**	**1,199,727**	226	**106,980**	132	**754,730**	192
348	331	**National Cooperative Refinery Assoc.** (McPherson, Kans.)[2]	**784,360**	**399,474**	413	**N.A.**[16]		**146,664**	449
349	314	**Anchor Hocking** (Lancaster, Ohio)	**780,498¶**	**528,340**	354	**(4,337)****	438	**289,150**	341
350	469	**Amdahl** (Sunnyvale, Calif.)	**777,680**	**723,651**	304	**46,457**	242	**372,339**	301

• Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[31] Name changed from Hart Schaffner & Marx April 13, 1983.

[32] Wholly owned by Hanson Trust PLC.

[33] Wholly owned by Household International.

[34] Figures include Maryland Cup (1982 rank: 388), acquired August 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
9,786	306	4.6	197	9.4	283	3.58	2.10	2.13	5.33	243	42.93	150	13.80	246	28
24,500	158	10.5	27	17.0	89	3.34	3.01	0.34	25.85	13	(33.67)	459	23.82	86	36
18,738	197	—		—		(0.08)**	0.53	3.15	—		2.08	404	4.40	403	47
25,000	156	3.9	236	13.8	165	3.05	2.51	1.23	9.54	153	34.95	194	22.58	102	23
3,600	470	8.4	51	17.6	80	1.68	2.41	0.12	30.44	7	54.41	103	26.44	59	10
9,900	303	1.9	369	10.5	248	1.88	1.08	0.80	8.92	166	55.92	96	26.84	55	28
7,754	364	0.4	422	0.6	420	0.11	5.02	0.38	(11.74)	373	(4.64)	430	8.44	355	45
13,100†	250	5.2	157	11.7	219	3.51	3.25	1.38	9.78	146	55.1[illegible]	100	21.78	112	40
24,000†	163	2.2	354	13.7	168	N.A.	N.A.	N.A.	—		—		—		20
17,764	210	0.1	428	0.1	425	0.05	(0.27)	4.98	(36.88)	390	30.39	231	12.88	271	45
17,200	215	5.9	118	16.6	97	3.37	3.06	1.18	11.09	121	42.04	156	26.38	60	36
12,400†	264	10.6	25	38.0	2	5.24	2.38	0.42	28.63	9	56.39	94	35.48	17	49
8,714	333	2.3	351	1.4§	413	0.07**	0.05	2.57	(30.25)	388	(1.56)	422	11.48	302	32
5,600	413	7.2	82	20.1	46	2.72	1.90	1.23	8.26	182	11.15	357	12.92	270	43
9,471	313	4.3	211	14.9	138	3.47	3.16	0.77	16.17	49	13.01	347	27.59	47	34
13,400	245	4.9	184	8.8	293	2.42	3.77	1.09	8.30	181	14.89	334	18.10	165	41
8,704	334	4.5	201	5.7§	374	2.03	0.87	2.32	(1.35)	341	7.43	377	15.39	218	36
19,800	191	5.2	161	21.7	30	1.56	1.38	0.20	22.65	22	(34.61)	460	23.49	91	38
4,658	444	4.1	226	12.9	189	1.66	1.77	1.09	4.32	254	16.51	322	3.61	415	29
18,000†	207	4.1	222	8.8	292	4.15	4.83	2.22	6.46	222	5.15	391	21.22	123	22
11,949	272	3.2	289	6.3§	366	1.51	1.90	(0.20)	—		31.72	218	32.80	25	41
15,732	226	—		—		(1.19)	1.88	0.37**	—		(35.88)	461	16.68	197	44
5,300	424	7.8	65	21.5	33	4.82	3.70	0.70	21.28	28	33.77	202	35.02	18	27
6,100	398	—		—		(0.41)	N.A.	N.A.	—		—		—		32
18,225	205	3.1	299	11.7	216	3.02	2.72	0.76	14.79	71	45.32	137	24.34	81	23
6,273	395	13.2	11	27.4	11	1.79	1.39	0.39	16.46	48	49.73	118	29.78	39	27
11,124	280	1.4	391	2.6	403	0.86	(12.10)	4.08	(14.42)	377	47.30	128	3.64	413	45
1,763	491	—		—		N.A.	N.A.	N.A.	—		—		—		28
8,800	332	3.5	264	18.5	65	1.33	0.41	0.52‡	9.85	145	30.28	232	32.99	24	37
9,893†	304	1.6	382	6.6	362	1.85	(2.28)	2.05	(1.04)	338	187.68	1	16.62	198	40
11,000	282	3.3	278	7.0	349	1.45	1.85	1.12	2.60	279	33.07	206	22.36	106	34
9,107	324	2.7	332	7.0	351	3.94	0.92	2.95	2.95	276	38.27	175	20.27	143	33
4,078	461	2.7	337	20.3	43	2.42	2.02	0.23	26.64	11	39.73	168	43.46	6	20
9,831†	305	6.7	95	13.9	164	10.09	7.49	5.39	6.47	219	19.87	307	17.69	176	45
14,855	230	2.8	326	4.9	386	0.96	1.14**	0.41	8.75	170	87.42	22	7.18	372	44
11,500	276	0.0	429	0.1	424	0.03	2.05	1.41	(31.97)	389	7.03	381	16.60	199	32
8,000	358	5.3	152	9.5	277	2.53	5.06	1.52	5.23	244	(19.29)	455	(3.28)	448	34
11,941	273	6.7	92	23.2	26	1.82	1.21	0.19	25.24	16	26.97	249	48.15	2	36
5,560	418	6.6	98	11.8	213	4.69	4.73	2.00	8.90	167	30.21	233	23.48	92	10
11,000	283	2.7	334	4.9	384	N.A.	N.A.	N.A.	—		—		—		34
7,926	360	4.3	213	14.2	155	1.84	1.49	0.69	10.23	139	52.92	107	6.86	374	28
11,749	275	0.5	417	1.1	416	0.19	0.35	1.14	(16.40)	381	61.09	84	14.59	227	45
4,165	459	8.2	54	13.7	169	1.65	1.21	0.90	6.19	228	22.43	287	5.20	392	28
9,192†	320	5.0	178	11.4	227	4.51	4.03	4.49	0.04	326	75.65	42	17.35	182	45
11,100†	281	3.8	242	24.3	18	6.27	6.01	0.09	52.04	1	4.34	394	20.46	139	37
4,800	439	11.9	17	12.7	191	1.32	0.95	0.52	9.66	152	34.96	193	17.92	171	10
14,655	232	13.6	10	14.2	156	3.78	3.43	0.54	21.48	26	17.92	313	24.23	83	26
553	498	—		—		N.A.	N.A.	N.A.	—		—		—		29
11,400	277	—		—		(0.45)**	1.25	1.81	—		84.10	27	20.84	130	32
6,390	393	6.0	117	12.5	196	1.03	0.34**	N.A.	—		24.87	268	—		44

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
351	409	**Hoover Universal** (Ann Arbor, Mich.)	776,856	441,478	393	32,440	300	196,735	409
352	354	**Wheeling-Pittsburgh Steel** (Pittsburgh)	772,320	1,241,322	221	(54,080)	455	368,352	303
353	351	**Kane-Miller** (Tarrytown, N.Y.)	768,357	163,229	492	(4,962)	439	72,451	482
354	345	**Champion Spark Plug** (Toledo)	764,362	571,682	341	26,964	327	359,463	308
355	386	**Dow Corning** (Midland, Mich.)	763,063	865,961	285	68,400	183	462,481	268
356	384	**Capital Cities Communications** (New York)	762,295	1,052,912	251	114,704	122	625,255	211
357	●	**Inspiration Resources** (New York)	762,128	1,111,131	241	(82,657)	462	518,011	243
358	374	**Varian Associates** (Palo Alto, Calif.)[10]	760,250	598,732	336	44,881	246	362,489	307
359	372	**National Starch & Chemical** (Bridgewater, N.J.)	756,928	495,580	366	46,679	240	303,546	336
360	334	**Midland-Ross** (Cleveland)	755,168	702,722	311	(10,177)	442	276,740	348
361	385	**Magic Chef** (Cleveland, Tenn.)[2]	754,399	409,972	409	25,443	333	196,539	410
362	336	**Reichhold Chemicals** (White Plains, N.Y.)	747,263	384,757	420	21,700	355	183,565	421
363	358	**Federal-Mogul** (Southfield, Mich.)	746,984	580,757	338	41,068	261	303,859	335
364	383	**Sun Chemical** (New York)	746,609	501,978	362	9,529	404	162,180	433
365	363	**McCormick** (Hunt Valley, Md.)[20]	743,154	419,461	403	40,113	264	216,374	387
366	373	**Scovill** (Waterbury, Conn.)	742,572	490,398	369	27,379	325	242,366	369
367	399	**Fuqua Industries** (Atlanta)	732,443	468,603	378	41,6[illegible]2	259	135,657	454
368	●	**NI Industries** (Long Beach, Calif.)	724,675	464,437	383	38,611	271	149,685	445
369	401	**American Greetings** (Cleveland)[8]	722,431	580,675	339	44,582	248	316,368	328
370	366	**Newmont Mining** (New York)	720,912	2,091,150	158	52,901	223	1,477,255	91
371	368	**Dayco** (Dayton, Ohio)[14]	718,680	434,740	396	4,380	418	139,371	452
372	369	**Gerber Products** (Fremont, Mich.)[9]	718,605	431,172	399	39,045	268	282,916	345
373	376	**Bemis** (Minneapolis)	701,006	389,392	415	12,024	394	168,763	431
374	394	**GAF** (New York)	699,397	414,267	407	(3,841)**	437	169,804	429
375	284	**Smith International** (Newport Beach, Calif.)	696,968	1,034,705	255	(94,553)	464	545,337	238
376	389	**Pabst Brewing** (Milwaukee)	687,035*	243,915	477	3,605‡	423	37,003	493
377	407	**Frederick & Herrud** (Southfield, Mich.)[12]	686,118	125,434	494	3,708	422	31,621	494
378	380	**Collins & Aikman** (New York)[8]	682,947	386,560	418	23,116	343	201,373	403
379	361	**Bell & Howell** (Chicago)	679,248	472,061	376	41,191**	260	212,190	394
380	412	**Southwest Forest Industries** (Phoenix)	678,163	716,746	305	(24,696)**	449	198,800	405
381	378	**Insilco** (Meriden, Conn.)	674,224	622,398	331	34,317	289	253,134	364
382	●	**Badische** (Williamsburg, Va.)[30]	671,230	513,307	358	22,097‡	352	209,487	397
383	431	**Sonoco Products** (Hartsville, S.C.)	671,197	383,203	421	33,534	292	236,609	374
384	379	**Economics Laboratory** (St. Paul)[2]	671,140	375,669	425	(15,652)	446	188,132	414
385	348	**Big Three Industries** (Houston)	668,841	1,097,602	244	45,331	245	615,720	216
386	367	**Figgie International Holdings** (Willoughby, Ohio)[35]	667,859	459,950	385	21,355	360	184,875	419
387	387	**Hoover** (North Canton, Ohio)	666,847	338,587	444	28,006	319	179,996	423
388	381	**Interstate Bakeries** (Kansas City, Mo.)[12]	666,378	187,975	487	(10,110)**	441	42,625	489
389	390	**Nalco Chemical** (Oak Brook, Ill.)	659,403	489,095	370	71,000	178	350,471	312
390	282	**Joy Manufacturing** (Pittsburgh)[10]	658,499	805,841	294	2,923	426	505,875	247
391	498	**Stone Container** (Chicago)	655,847	968,249	264	(2,922)	435	270,311	352
392	418	**Harcourt Brace Jovanovich** (New York)	648,827	466,048	381	27,476	324	183,691	420
393	424	**Mohasco** (Amsterdam, N.Y.)	643,831	369,265	431	13,096	391	204,418	401
394	382	**Genesco** (Nashville)[13]	639,761	326,795	450	(1,971)**	432	88,770	477
395	406	**M/A-Com** (Burlington, Mass.)[10]	637,279	658,131	323	29,664	313	391,647	292
396	359	**Kaiser Steel** (Fontana, Calif.)	634,680¶	1,072,636	249	(422,770)**	485	148,695	447
397	403	**Scott & Fetzer** (Lakewood, Ohio)[20]	629,563	445,067	390	32,224	302	214,867	391
398	421	**Idle Wild Foods** (Worcester, Mass.)[21]	628,848	128,743	493	4,396	417	61,502	487
399	416	**Dennison Manufacturing** (Framingham, Mass.)	628,659	382,895	422	31,385	306	210,971	396
400	427	**Deluxe Check Printers** (St. Paul)	619,695	402,947	411	76,605	173	284,908	343

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[35] Name changed from Figgie International July 18, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
7,800	363	4.2	221	16.5	98	2.38	1.19	1.05	8.54	176	63.77	76	24.27	82	34
7,512†	371	—		—		(15.74)	(15.98)	4.45	—		83.47	28	9.36	337	33
3,000	478	—		—		(2.30)	1.68	2.16	—		35.20	191	11.08	310	20
12,600	258	3.5	259	7.5	334	0.70	0.70	1.38	(6.56)	362	3.76	396	2.40	422	36
5,763†	406	9.0	44	14.8	142	N.A.	N.A.	N.A.	—		—		—		28
7,890	361	15.1	5	18.4	67	8.53	7.25	1.30	20.65	35	20.54	302	24.97	76	27
6,025	401	—		—		(3.82)	(5.45)	4.46	—		(1.34)	419	(2.86)	444	10
13,600	243	5.9	119	12.4	199	2.14	1.47	0.49	15.88	58	70.69	51	27.53	49	36
5,161	425	6.2	112	15.4	122	N.A.	N.A.	N.A.	—		—		—		28
10,500	290	—		—		(0.83)	0.10	0.95	—		21.83	293	21.57	118	45
7,408	374	3.4	273	11.1§	233	2.71	0.78	0.98	10.71	130	79.25	31	26.35	61	36
4,410	453	2.9	317	10.4§	255	2.74	0.25	1.65	5.20	246	77.68	38	20.39	141	28
13,206	248	5.5	141	13.5	175	3.10	2.20	1.23	9.68	150	27.80	242	23.55	90	45
6,700	390	1.3	395	5.9	371	1.24	0.26	1.10	1.21	310	71.92	48	22.96	99	28
6,872†	385	5.4	146	18.5	63	3.22	2.02	0.73	16.00	54	16.92	318	7.56	365	20
16,823	219	3.7	251	11.3	228	2.53	2.10	2.59	(0.23)	329	23.04	282	17.36	181	36
8,968	328	5.7	132	30.7	5	4.26	2.45	0.85	17.49	44	74.04	44	26.69	56	45
9,000	326	5.3	150	25.8	14	2.12	(0.39)	N.A.	—		—		—		34
17,576	211	6.2	111	14.1	160	1.54	1.20	0.53	11.15	119	41.40	160	7.42	369	27
7,034	381	7.3	77	3.6	399	1.75	1.76	4.15	(8.27)	368	(5.91)	434	10.01	327	33
9,500	312	0.6	411	3.1	401	0.71	0.25	2.06	(10.09)	372	66.20	67	10.84	315	30
10,775†	287	5.4	145	13.8	167	2.92	3.07	1.23	9.06	162	78.48	34	22.05	110	20
8,124	352	1.7	378	7.1	347	1.67	1.35	1.32	2.39	286	27.16	247	17.42	180	26
4,000	464	—		—		(0.47)**	3.71**	1.85	—		19.11	310	11.78	298	29
7,739	365	—		—		(4.17)	3.61	0.51	—		(21.82)	456	6.05	382	45
2,851	482	0.5	415	9.7	272	0.31‡	0.08	0.63	(6.81)	365	59.52	87	6.62	375	49
2,700	485	0.5	414	11.7	214	1.05	0.56	0.48	8.08	185	—		—		20
9,150†	322	3.4	271	11.5	225	2.20	1.71	1.35	5.00	249	78.12	36	24.83	78	22
9,508	309	6.1	116	19.4	50	3.59**	(0.52)	3.36	0.66	316	63.68	78	13.57	251	38
6,200	397	—		—		(3.34)**	(3.63)	2.14	—		30.53	230	9.71	333	26
7,600	370	5.1	166	13.6	173	2.00	0.83	0.97	7.47	205	6.53	383	21.14	125	28
4,243	457	3.3	277	10.6	247	N.A.	N.A.	N.A.	—		—		—		28
10,055	297	5.0	173	14.2	157	3.08	2.63	0.93	12.77	99	37.71	179	21.72	114	26
6,772	387	—		—		(1.16)	2.44	0.94	—		15.77	328	0.98	429	43
5,104	427	6.8	89	7.4	336	1.07	2.05	0.38	10.82	124	(1.24)	418	13.21	265	28
12,500	260	3.2	285	11.6	221	3.62	4.18	1.25	11.22	116	23.55	276	21.14	126	45
14,788	231	4.2	218	15.6	117	2.27	0.32	2.50	(0.96)	336	147.78	4	9.81	330	36
11,000	284	—		—		(2.14)**	0.60**	0.08**	—		51.35	113	14.08	238	20
4,596	448	10.8	23	20.3	45	1.78	1.46	1.25	3.60	265	10.83	358	11.37	305	28
6,789	386	0.4	420	0.6	421	0.15	4.27	0.78	(15.24)	379	33.97	200	9.64	334	45
8,900	330	—		—		(0.31)	1.46	0.73	—		96.24	16	30.31	35	26
8,674	336	4.2	215	15.0	134	3.03	0.36	1.08	10.87	123	53.42	106	18.06	166	27
11,750	274	2.0	360	6.4§	365	1.96	(1.17)	2.21	(1.19)	339	35.88	187	9.57	335	25
13,200	249	—		—		(0.29)**	(0.09)	(4.54)‡	—		70.27	54	4.91	396	31
9,508	310	4.7	195	7.6	332	0.72	0.88	0.19	14.22	77	(13.23)	448	26.87	54	36
2,962	481	—		—		(43.18)**	0.29**	7.53	—		92.73	18	13.32	261	33
14,081†	239	5.1	165	15.0	131	4.80	4.04	2.76	5.69	235	24.18	272	13.01	268	36
1,800	490	0.7	410	7.2	342	2.42	4.92	2.26	0.69	315	12.17	351	—		20
8,380	346	5.0	174	14.9	137	3.10	2.10	1.31	8.97	164	53.60	105	24.45	80	26
10,237	292	12.4	15	26.9	13	3.37	2.83	0.58	19.14	40	2.15	403	13.37	259	27

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
401	405	**Ferro** (Cleveland)	619,179	367,262	433	19,228	366	187,738	415
402	448	**MEI** (Minneapolis)	616,463	429,618	400	38,275	272	169,193	430
403	392	**Briggs & Stratton** (Wauwatosa, Wis.)[2]	613,807	387,780	416	31,762	304	261,054	357
404	391	**Sybron** (Rochester, N.Y.)	612,898¶	467,567	379	(26,701)	451	207,464	399
405	449	**Sheller-Globe** (Toledo)[10]	607,942	417,119	404	16,612	375	198,938	404
406	415	**Brown-Forman Distillers** (Louisville)[17]	604,852*	635,058	328	95,176	147	467,552	265
407	425	**Tyson Foods** (Springdale, Ark.)[10]	603,537	254,572	474	11,069	400	66,760	485
408	442	**Arvin Industries** (Columbus, Ind.)	600,605	328,055	449	18,338	372	189,030	413
409	482	**Maytag** (Newton, Iowa)	596,988	322,100	453	60,691	200	222,125	380
410	444	**Coleco Industries** (West Hartford, Conn.)	596,498	477,880	373	(7,433)	440	89,419	476
411	417	**Armstrong Rubber** (New Haven, Conn.)[10]	594,670	375,651	426	18,753	369	187,268	416
412	434	**M. Lowenstein** (New York)	584,879	363,396	436	22,178	349	186,180	417
413	435	**Raychem** (Menlo Park, Calif.)[3]	582,702	499,178	364	30,511	310	286,951	342
414	413	**Wm. Wrigley Jr.** (Chicago)	581,688	324,103	451	39,164	267	238,650	372
415	487	**Sanders Associates** (Nashua, N.H.)[13]	578,128	466,294	380	37,046	277	281,006	346
416	344	**ACF Industries** (New York)	576,633	1,173,062	231	1,846**	427	366,528	304
417	•	**Gulfstream Aerospace** (Savannah, Ga.)	576,327	516,217	357	53,134	220	192,635	411
418	450	**Handy & Harman** (New York)	575,900	386,341	419	10,610	401	129,735	457
419	426	**Tyco Laboratories** (Exeter, N.H.)[12]	573,930	387,756	417	21,475	358	156,672	437
420	437	**Consolidated Papers** (Wisconsin Rapids, Wis.)	573,346	486,245	371	48,975	235	362,811	306
421	400	**Kellwood** (St. Louis)[17]	573,168	288,759	464	11,086	399	91,199	474
422	•	**Smithfield Foods** (Arlington, Va.)[17]	570,615	86,585	499	2,946	425	17,372	496
423	445	**Federal Paper Board** (Montvale, N.J.)	568,999	555,554	346	12,458	392	174,941	427
424	446	**Bausch & Lomb** (Rochester, N.Y.)	567,607	497,494	365	42,664	254	267,935	354
425	420	**Rohr Industries** (Chula Vista, Calif.)[13]	567,538	332,282	447	24,125	338	149,218	446
426	404	**Nashua** (Nashua, N.H.)	565,656	271,968	470	16,355**	377	108,533	467
427	397	**AM International** (Chicago)[18]	564,690	382,033	423	6,829**	413	(79,523)	498
428	457	**Echlin** (Branford, Conn.)[21]	564,497	398,077	414	30,732	308	232,073	376
429	462	**A.H. Robins** (Richmond, Va.)	563,510	509,663	360	58,221	204	355,837	311
430	•	**Michigan Milk Producers Association** (Southfield, Mich.)[10]	562,038	90,010	498	N.A.[16]		25,192	495
431	439	**Dexter** (Windsor Locks, Conn.)	561,384	409,985	408	27,321	326	186,118	418
432	441	**Dr Pepper** (Dallas)	560,415	365,252	435	21,590	357	156,167	439
433	352	**Cincinnati Milacron** (Cincinnati)	559,017	628,652	329	(10,279)	443	302,268	337
434	375	**Bucyrus-Erie** (South Milwaukee, Wis.)	551,533	536,923	351	(133,003)	471	257,722	361
435	455	**Fieldcrest Mills** (Eden, N.C.)	550,515	333,893	446	15,060	383	175,001	426
436	393	**H.H. Robertson** (Pittsburgh)	549,560	341,175	442	17,228	373	161,014	434
437	429	**Westmoreland Coal** (Philadelphia)	549,287	404,441	410	15,287	381	218,105	383
438	395	**Bangor Punta** (Greenwich, Conn.)[10]	547,726	491,798	368	(64,429)	459	155,976	440
439	459	**Nucor** (Charlotte, N.C.)	542,531	425,567	401	27,864	322	258,130	360
440	447	**Datapoint** (San Antonio)[12]	540,192	586,674	337	8,077	409	329,963	322
441	464	**Shaklee** (San Francisco)[10]	538,726	261,795	472	35,145	288	151,125	444
442	402	**Foxboro** (Foxboro, Mass.)	533,102	432,977	398	7,977	410	310,592	330
443	436	**Eagle-Picher Industries** (Cincinnati)[20]	532,653	379,785	424	15,348	380	222,786	379
444	408	**Stokely-Van Camp** (Indianapolis)[12]	525,214	272,568	469	15,266	382	152,255	443
445	332	**Cessna Aircraft** (Wichita)[10]	524,395	698,787	313	(18,845)	447	327,782	323
446	470	**Flowers Industries** (Thomasville, Ga.)[2]	522,254	233,180	481	19,214	367	114,295	465
447	443	**Sun-Diamond Growers of California** (Stockton, Calif.)[13]	522,199	334,669	445	N.A.[16]		62,531	486
448	452	**Universal Foods** (Milwaukee)[10]	520,128	242,350	480	20,601	363	119,380	462
449	454	**Georgia Kraft** (Rome, Ga.)	516,877	625,605	330	32,213	303	320,826	326
450	488	**Oxford Industries** (Atlanta)[12]	516,677	186,075	489	22,654	346	107,232	468

• Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[16] FORTUNE estimate.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
8,090†	354	3.1	298	10.2	258	3.04	1.37	2.45	2.20	289	30.62	226	13.95	244	28
4,800	440	6.2	110	22.6	28	2.27	1.90	0.20	27.18	10	25.88	255	43.89	4	49
9,254	318	5.2	160	12.2	203	2.20	2.72	1.86	1.67	296	(9.15)	442	8.57	351	45
8,831	331	—		—		(2.93)	0.49	1.80	—		40.95	163	3.26	417	38
10,204	293	2.7	333	8.4	309	1.93	1.83	1.85	0.40	320	42.75	151	22.49	105	40
2,503	488	15.7	1	20.4	42	3.76	3.43	0.65	19.19	39	(6.95)	438	19.92	146	49
9,200	319	1.8	375	16.6	95	1.42	1.21	0.56	9.73	148	41.11	162	27.17	53	20
10,128	296	3.1	305	9.7	273	2.37	1.40	1.19	7.09	213	33.53	204	16.20	210	40
4,703†	442	10.2	33	27.3	12	4.37	2.68	2.20	7.10	212	43.39	144	14.53	228	36
5,000	429	—		—		(0.48)	2.90	(0.08)	—		(46.94)	462	13.43	256	47
4,927	435	3.2	294	10.0	264	4.83	4.31	1.67	11.17	118	13.69	342	20.65	133	30
10,000	301	3.8	243	11.9	212	6.62	4.63	3.10	7.88	191	51.16	115	19.43	151	22
8,618	339	5.2	156	10.6	244	3.23	4.07	0.76	15.59	63	18.18	312	7.03	373	36
5,600	417	6.7	91	16.4	101	5.12	4.57	2.52	7.35	207	36.93	180	13.72	249	20
9,394	315	6.4	102	13.2	183	4.08	3.30	1.30**	12.12	106	63.98	74	31.28	30	36
7,437	373	0.3	425	0.5	422	0.22**	3.74	3.07	(23.16)	385	57.98	91	9.02	342	37
3,550	471	9.2	42	27.6	10	1.62	1.41	N.A.	—		—		—		41
5,481	421	1.8	374	8.2	315	0.77	0.61	0.39	7.13	211	(6.50)	436	23.39	93	33
7,135	378	3.7	248	13.7	170	2.47	2.56	0.81**	11.79	111	64.00	73	21.68	117	26
4,934†	434	8.5	49	13.5	176	4.50	3.68	1.39	12.43	102	67.50	64	29.97	36	26
15,000	228	1.9	366	12.2	205	3.16	2.35	2.08‡,34	4.27	256	37.96	177	13.97	242	23
3,000	479	0.5	416	17.0	88	1.00	0.72	0.48	7.62	201	18.97	311	18.17	163	20
4,300	456	2.2	355	7.1	348	1.97	2.62	1.81	0.85	313	65.46	69	22.63	101	26
8,155	350	7.5	72	15.9	110	1.71	1.24	0.49	13.31	89	12.70	348	13.08	266	38
7,700	366	4.3	214	15.0§	129	3.68	2.85	1.51	9.32	159	157.02	3	10.06	324	41
5,106	426	2.9	318	15.1	127	3.48**	(8.66)	2.55	3.16	273	145.12	5	(0.16)	437	44
10,475	291	1.2	398	—		0.67**	(8.11)	0.55**	1.99	292	68.42	59	(7.34)	454	38
7,600	369	5.4	143	13.2	182	1.50	1.30	0.66	8.56	175	24.97	266	6.58	376	40
5,700	410	10.3	30	16.4	103	2.40	1.98	0.97	9.48	155	28.14	240	4.70	398	42
761	496	—		—		N.A.	N.A.	N.A.	—		—		—		20
5,600	414	4.9	183	14.7	145	1.77	1.59	0.51	13.21	92	31.80	217	21.19	124	28
4,032	463	3.9	240	13.8	166	0.93	0.58	0.51	6.19	227	75.96	40	4.28	406	49
9,283†	317	—		—		(0.46)	0.53	0.44	—		31.90	216	25.67	66	45
4,328	455	—		—		(6.51)	1.26	0.93	—		21.53	295	0.91	430	45
11,161	279	2.7	331	8.6	299	3.89	2.73	2.62	4.03	259	33.62	203	18.35	161	22
6,875	384	3.1	296	10.7	242	3.23	5.57	1.48	8.08	186	75.48	43	28.56	42	34
3,321	475	2.8	327	7.0	350	1.91	1.14	0.69	10.72	128	66.90	65	8.41	356	10
8,417†	342	—		—		(9.11)	0.34	0.09	—		51.62	112	27.93	45	41
3,700	467	5.1	163	10.8	239	1.98	1.59	0.46	15.82	59	37.71	178	34.59	20	33
8,914	329	1.5	388	2.5	405	0.40	0.12	0.28	3.63	264	49.66	119	23.81	87	44
1,500	493	6.5	99	23.3	24	2.71	1.90	0.35	22.71	21	8.98	372	13.78	248	20
10,200	294	1.5	387	2.6	404	0.65	2.81	0.74	(1.32)	340	2.23	401	8.56	352	38
8,100	353	2.9	320	6.9	353	1.58	1.17	1.49	0.58	318	85.07	24	17.21	185	45
4,600	447	2.9	315	10.0	263	5.29	4.59	2.26	8.88	168	—		—		20
7,657†	367	—		—		(0.98)	0.94	1.36	—		6.98	382	19.94	145	41
10,000	299	3.7	254	16.7§	91	1.25	1.15	0.30	15.33	67	86.91	23	32.32	26	20
2,756†	484	—		—		N.A.	N.A.	N.A.	—		—		—		20
3,400	474	4.0	234	17.3	83	2.91	2.62	0.70	15.35	66	16.93	317	23.70	88	20
3,100	476	6.2	108	10.0	262	N.A.	N.A.	N.A.	—		—		—		26
12,275	267	4.4	207	21.1	36	3.92	2.83	1.70	8.68	171	68.07	61	38.45	11	23

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
451	489	**Prime Computer** (Natick, Mass.)	516,503	444,740	391	32,503	299	268,179	353
452	422	**Revere Copper & Brass** (New York)	508,326	347,167	440	15,042	384	46,693	488
453	495	**Media General** (Richmond, Va.)	507,784	474,703	375	35,907	281	245,206	368
454	•	**ROLM** (Santa Clara, Calif.)[2]	502,642	519,915	355	35,543	284	381,719	295
455	480	**Illinois Tool Works** (Chicago)	497,821	449,811	389	49,588	233	339,952	316
456	453	**Warnaco** (Bridgeport, Conn.)	497,260	278,628	467	28,342	317	164,606	432
457	499	**Easco** (Baltimore)	492,620	269,907	471	9,376	405	116,817	464
458	396	**Amsted Industries** (Chicago)[10]	490,166	465,064	382	(3,800)	436	357,189	310
459	465	**Royal Crown Companies** (Atlanta)	490,067	251,441	475	14,982	385	123,378	461
460	438	**American Bakeries** (New York)	489,811	111,627	496	4,273**	419	38,030	492
461	483	**Savannah Foods & Industries** (Savannah, Ga.)	487,712	178,645	490	25,982	330	91,649	473
462	494	**Roper** (Kankakee, Ill.)[13]	481,143	208,502	485	11,452	397	88,679	478
463	•	**Coachmen Industries** (Middlebury, Ind.)	478,742	123,351	495	23,388	340	79,204	481
464	423	**United Merchants & Manufacturers** (New York)[2]	478,309	366,238	434	(2,711)**	434	156,388	438
465	370	**Trinity Industries** (Dallas)[9]	477,017	368,760	432	16,501	376	182,702	422
466	•	**Rorer Group** (Fort Washington, Pa.)	475,289	422,849	402	42,445	256	220,589	381
467	456	**Palm Beach** (Cincinnati)	472,394	225,000	483	13,944	387	91,180	475
468	•	**Guardian Industries** (Northville, Mich.)	469,342	502,557	361	38,123	273	212,208	393
469	472	**Ceco** (Oak Brook, Ill.)	465,178	243,529	479	11,750	395	138,626	453
470	478	**International Flavors & Fragrances** (New York)	460,945	458,262	386	68,410	182	344,255	315
471	476	**Liquid Air** (San Francisco)	459,409	535,561	352	23,902	339	255,837	362
472	493	**Cooper Tire & Rubber** (Findlay, Ohio)	457,780	243,665	478	21,406	359	139,601	451
473	491	**Phillips-Van Heusen** (New York)[27]	454,975	211,872	484	8,757	406	103,473	471
474	492	**Snap-on Tools** (Kenosha, Wis.)	454,748	372,350	429	42,974	253	258,941	359
475	486	**Worthington Industries** (Columbus, Ohio)[12]	449,571	301,283	461	19,870	364	127,218	458
476	•	**Cooper Labs** (Palo Alto, Calif.)[14]	448,595¶	346,179	441	25,500	332	211,547	395
477	•	**Prentice-Hall** (Englewood Cliffs, N.J.)	448,206	402,572	412	39,035	269	216,176	388
478	500	**Ametek** (New York)	448,152	309,236	457	37,753**	274	175,683	424
479	474	**Meredith** (Des Moines)[2]	447,755	415,657	405	32,289	301	196,855	408
480	485	**Wisconsin Dairies Cooperative** (Baraboo, Wis.)[9]	447,555	95,540	497	N.A.[16]		42,040	490
481	460	**Peabody International** (Stamford, Conn.)[10]	446,727	285,946	465	8,439	407	126,516	459
482	473	**Dorsey** (Chattanooga, Tenn.)	446,453	186,736	488	10,093	402	81,949	480
483	496	**Diebold** (Canton, Ohio)	445,917	330,632	448	49,142	234	235,637	375
484	432	**Holly** (Dallas)[13]	444,643	175,514	491	6,523	414	68,999	483
485	•	**Harte-Hanks Communications** (San Antonio)	443,630	485,160	372	33,331	294	251,270	365
486	•	**Bairnco** (New York)	442,278	356,904	437	22,670	345	132,358	456
487	•	**Rubbermaid** (Wooster, Ohio)	436,437	300,316	462	35,655	283	197,007	407
488	•	**Hillenbrand Industries** (Batesville, Ind.)[20]	432,530	351,033	438	35,678	282	215,428	389
489	•	**Macmillan** (New York)	430,515	373,284	428	25,061	335	158,612	436
490	•	**Harvey Hubbell** (Orange, Conn.)	427,893	322,892	452	32,585	296	247,339	366
491	•	**Pittway** (Northbrook, Ill.)	426,777	314,690	455	26,276	329	218,667	382
492	430	**Oak Industries** (Rancho Bernardo, Calif.)	426,418	451,800	387	(166,113)	478	86,415	479
493	•	**H.B. Fuller** (St. Paul)[20]	425,541	225,913	482	13,832	388	92,212	472
494	•	**Sealed Power** (Muskegon, Mich.)	424,622	301,540	460	29,050	315	207,683	398
495	•	**Tracor** (Austin, Tex.)	424,620	306,305	459	24,565	336	154,175	441
496	419	**Moore McCormack Resources** (Stamford, Conn.)	423,444	967,444	265	11,533	396	373,493	300
497	410	**Hyster** (Portland, Ore.)[27]	422,169	450,330	388	7,279	412	305,244	334
498	•	**Riegel Textile** (Greenville, S.C.)[10]	418,777	273,693	468	7,958	411	148,374	448
499	481	**Masonite** (Chicago)[21]	418,704	312,848	456	15,691	379	203,180	402
500	•	**Tandem Computers** (Cupertino, Calif.)[10]	418,282	415,525	406	30,805	307	310,993	329
		TOTALS	1,686,697,547	1,353,895,273		68,787,930		631,679,804	

• Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
5,927	402	**6.3**	106	**12.1**	207	**0.68**	**0.99**	**(0.17)**	—		**(23.65)**	457	—		44
4,550†	449	**3.0**	311	**32.2**	3	**2.64**	**(27.61)**	**0.43**	**19.90**	37	**89.58**	21	**4.64**	399	33
4,700	443	**7.1**	85	**11.7§**	217	**5.07**	**4.60**	**1.20**	**15.45**	65	**32.85**	209	**21.86**	111	27
7,049	380	**7.1**	86	**9.3**	284	**1.80**	**1.70**	**N.A.**	—		**(0.74)**	414	—		36
7,300	376	**10.0**	35	**14.6**	147	**3.98**	**3.26**	**1.61**	**9.47**	156	**42.13**	155	**11.50**	301	34
9,506	311	**5.7**	130	**17.2**	84	**2.80**	**2.58**	**1.25**	**8.38**	179	**24.46**	270	**25.63**	68	23
5,692	411	**1.9**	370	**7.8§**	326,	**1.50**	**1.87**	**1.39**	**0.79**	314	**44.39**	140	**18.48**	159	34
6,900	382	—		—		**(0.35)**	**1.65**	**1.38**	—		**38.51**	173	**18.74**	154	33
5,000	432	**3.1**	304	**12.1**	206	**1.80**	**1.94**	**1.53**	**1.64**	300	**48.63**	125	**12.68**	278	49
7,500	372	**0.9**	405	**10.8§**	237	**1.63****	**(4.30)**	**(1.06)**	—		**25.56**	258	**17.90**	172	20
905	494	**5.3**	151	**28.4**	9	**7.38**	**5.61**	**0.88**	**23.63**	20	**78.04**	37	**28.11**	44	20
4,600	446	**2.4**	349	**12.9**	188	**1.82**	**0.71**	**0.73**	**9.53**	154	**116.14**	10	**28.77**	41	45
4,509	451	**4.9**	182	**29.5**	8	**2.78**	**0.80**	**0.17**	**31.86**	5	**116.49**	9	**49.19**	1	37
9,000	327	—		—		**(0.35)****	**14.12****	**3.31**	—		**71.19**	50	**(0.58)**	439	22
3,800	466	**3.5**	265	**9.0**	287	**1.05**	**2.36**	**0.22**	**16.98**	46	**91.00**	19	**27.43**	51	34
5,508	419	**8.9**	45	**19.2**	52	**2.02**	**1.82**	**1.74**	**1.50**	304	**27.76**	243	**9.78**	331	42
7,320	375	**3.0**	313	**14.5§**	149	**3.60**	**2.29**	**0.82**	**15.89**	57	**49.45**	120	**34.11**	21	23
4,951	433	**8.1**	57	**18.0**	74	**1.68**	**1.48**	**0.38**	**15.90**	56	**(4.92)**	431	**22.26**	107	32
7,109	379	**2.5**	343	**8.5**	303	**2.34**	**2.11**	**1.83**	**2.47**	283	**41.28**	161	**17.34**	183	34
3,673	469	**14.8**	6	**19.9**	48	**1.87**	**1.73**	**0.73**	**9.86**	144	**2.41**	400	**(0.87)**	440	43
4,066	462	**5.2**	158	**8.8§**	294	**1.80**	**2.13**	**N.A.**	—		**25.87**	256	—		28
4,455	452	**4.7**	193	**15.3**	124	**2.15**	**2.21**	**0.50**	**15.76**	60	**(11.76)**	447	**28.93**	40	30
8,000	359	**1.9**	368	**8.5**	304	**3.08**	**2.54**	**2.05**	**4.15**	258	**133.85**	7	**24.04**	85	23
5,448	422	**9.5**	41	**16.6**	94	**2.12**	**1.84**	**0.68**	**12.04**	108	**17.04**	316	**5.68**	386	34
3,700	468	**4.4**	204	**15.6**	116	**1.20**	**1.16**	**0.16**	**22.44**	23	**64.58**	71	**41.66**	7	33
6,300	394	**5.7**	133	**12.1**	209	**1.60**	**1.38**	**(0.42)**	—		**(0.86)**	415	**30.33**	34	42
5,800	405	**8.7**	48	**18.1**	70	**3.93**	**3.66**	**1.85**	**7.83**	193	**7.42**	378	**15.83**	216	27
5,900	403	**8.4**	50	**21.5**	32	**1.74****	**1.25**	**0.45**	**14.48**	74	**68.82**	58	**29.96**	37	38
2,844	483	**7.2**	79	**16.4**	102	**3.56**	**2.86**	**(1.00)‡**	—		**54.78**	101	**37.06**	13	27
628†	497	—		—		**N.A.**	**N.A.**	**N.A.**	—		—		—		20
4,850	437	**1.9**	372	**6.7**	359	**0.78**	**0.47**	**1.07**	**(3.14)**	350	**67.82**	63	**14.43**	231	45
5,000	430	**2.3**	353	**12.0§**	211	**3.02**	**(1.22)**	**0.88**	**13.12**	93	**(5.91)**	435	**25.89**	65	30
5,824	404	**11.0**	21	**20.9**	37	**5.65**	**4.80**	**1.38**	**15.15**	69	**5.54**	387	**16.45**	204	36
362	499	**1.5**	389	**9.5**	279	**0.80**	**1.25**	**0.18****	**16.09**	52	**30.76**	223	**18.71**	155	29
10,021	298	**7.5**	73	**13.3**	181	**1.58**	**1.39**	**0.79**	**7.18**	209	**29.37**	236	**31.94**	28	27
4,235†	458	**5.1**	164	**17.1**	86	**3.58**	**3.32**	**0.36**	**25.82**	14	**58.85**	89	**41.25**	8	36
3,456	473	**8.2**	56	**18.1**	69	**2.30**	**1.78**	**0.64**	**13.56**	84	**32.75**	211	**10.06**	323	30
5,600	415	**8.3**	53	**16.6**	96	**1.78**	**3.09**	**1.02**	**5.73**	234	**33.02**	207	**21.36**	120	47
6,100	399	**5.8**	122	**15.8**	113	**2.60**	**1.81**	**1.23**	**7.78**	197	**24.76**	269	**12.56**	280	27
5,671	412	**7.6**	68	**13.2**	184	**2.60**	**2.85**	**1.26**	**7.48**	204	**15.18**	330	**14.77**	224	36
5,600	416	**6.2**	113	**12.0**	210	**5.60**	**5.89**	**1.67**	**12.88**	97	**21.43**	297	**16.26**	208	36
9,400	314	—		—		**(10.17)**	**0.25**	**0.92**	—		**(58.71)**	464	**8.94**	344	36
4,100	460	**3.3**	281	**15.0**	130	**2.98**	**2.06**	**0.73**	**15.10**	70	**70.58**	52	**31.69**	29	28
4,861†	436	**6.8**	88	**14.0**	163	**2.38**	**1.88**	**0.88**	**10.51**	135	**22.73**	284	**25.45**	70	40
8,300	348	**5.8**	126	**15.9**	109	**1.60**	**1.37**	**0.55****	**11.35**	115	**13.19**	345	**37.82**	12	36
2,700	486	**2.7**	335	**3.1**	402	**1.33**	**0.78**	**1.01**	**2.76**	277	**7.96**	376	**27.36**	52	32
4,799	441	**1.7**	377	**2.4**	406	**1.20**	**5.61**	**2.33**	**(6.42)**	361	**75.82**	41	**18.02**	167	45
8,400	345	**1.9**	371	**0.8§**	418	**2.13**	**2.26**	**2.21**	**(0.38)**	330	**23.01**	283	**21.27**	122	22
5,010	428	**3.8**	247	**7.7**	328	**3.67**	**(1.44)**	**6.12**	**(4.99)**	355	**(0.90)**	416	**5.22**	391	26
4,396	454	**7.4**	76	**9.9**	268	**0.76**	**0.76**	**N.A.**	—		**38.42**	174	—		44
14,052,725															

TOTAL RETURN TO INVESTORS, 1983

THE TEN HIGHEST

	SALES RANK	
A.O. Smith	330	187.68%
International Harvester	104	170.59
Rohr Industries	425	157.02
Hoover	387	147.78
Nashua	426	145.12
Brunswick	260	135.20
Phillips-Van Heusen	473	133.85
Intel	272	116.77
Coachmen Industries	463	116.49
Roper	462	116.14

THE FIVE LOWEST

Mattel	248	-68.57%
Oak Industries	492	-58.71
Tosco	153	-55.06
Coleco Industries	410	-46.94
Storage Technology	322	-35.88

THE INDUSTRY MEDIANS

Beverages	48.63%
Motor vehicles	42.75
Metal manufacturing	42.50
Apparel	41.64
Shipbuilding, railroad and transportation equipment	39.44
Mining, crude-oil production	36.79
Chemicals	34.41
Industrial and farm equipment	34.39
Paper, fiber, and wood products	34.12
Metal products	33.07
Aerospace	32.91
Textiles, vinyl flooring	32.25
Office equipment (includes computers)	28.75
Publishing, printing	27.07
Electronics, appliances	26.84
Food	26.02
Measuring, scientific, photographic equipment	23.79
Petroleum refining	22.39
Rubber, plastic products	13.69
Glass, concrete, abrasives, gypsum	9.46
Pharmaceuticals	7.18
Soaps, cosmetics	6.78
Musical instruments, toys, sporting goods	2.08
Leather	N.A.
Jewelry, silverware	N.A.
Tobacco	N.A.
Furniture	N.A.
All Industries	*30.21*

TOTAL RETURN TO INVESTORS, 1973-83

THE TEN HIGHEST

	SALES RANK	
Coachmen Industries	463	49.19%
E-Systems	338	48.15
Wang Laboratories	227	45.79
MEI	402	43.89
Lockheed	50	43.46
Dean Foods	333	43.46
Worthington Industries	475	41.66
Bairnco	486	41.25
G. Heileman Brewing	268	40.58
Teledyne	135	40.18

THE FIVE LOWEST

AM International	427	-7.34%
Xerox	38	-4.88
Polaroid	256	-4.55
Burroughs	82	-4.14
Penn Central	151	-3.61

THE INDUSTRY MEDIANS

Aerospace	25.45%
Apparel	24.75
Publishing, printing	21.17
Shipbuilding, railroad and transportation equipment	20.08
Textiles, vinyl flooring	18.89
Metal products	16.69
Motor vehicles	16.62
Glass, concrete, abrasives, gypsum	16.60
Food	16.42
Paper, fiber, and wood products	15.94
Electronics, appliances	15.37
Industrial and farm equipment	14.75
Rubber, plastic products	14.22
Chemicals	14.02
Mining, crude-oil production	13.74
Musical instruments, toys, sporting goods	13.43
Petroleum refining	12.02
Metal manufacturing	11.83
Beverages	11.23
Office equipment (includes computers)	11.22
Measuring, scientific, photographic equipment	8.00
Pharmaceuticals	6.38
Soaps, cosmetics	4.15
Jewelry, silverware	N.A.
Leather	N.A.
Tobacco	N.A.
Furniture	N.A.
All Industries	*14.59*

RETURN ON STOCKHOLDERS' EQUITY

THE TEN HIGHEST

	SALES RANK	
Chrysler	21	51.1%
General Cinema	312	38.0
Revere Copper & Brass	452	32.2
Lockheed	50	31.5
Fuqua Industries	367	30.7
American Home Products	73	30.6
VF	280	29.9
Coachmen Industries	463	29.5
Savannah Foods & Industries	461	28.3
Gulfstream Aerospace	417	27.6

THE INDUSTRY MEDIANS

	1983	1982
Publishing, printing	17.8%	15.5%
Pharmaceuticals	17.5	16.9
Beverages	16.9	16.7
Soaps, cosmetics	14.7	16.0
Food	14.5	15.3
Aerospace	13.5	11.7
Apparel	13.0	12.3
Electronics, appliances	12.0	11.6
Shipbuilding, railroad and transportation equipment	11.6	8.6
Office equipment (includes computers)	11.1	12.1
Motor vehicles	10.1	5.3
Chemicals	10.0	8.9
Rubber, plastic products	10.0	1.9
Measuring, scientific, photographic equipment	9.9	13.0
Metal products	9.5	12.2
Petroleum refining	9.4	12.5
Mining, crude-oil production	8.9	9.0
Textiles, vinyl flooring	8.7	6.3
Glass, concrete, abrasives, gypsum	8.0	4.3
Paper, fiber, and wood products	7.1	8.0
Industrial and farm equipment	4.7	9.6
Musical instruments, toys, sporting goods	.0	N.A.
Metal manufacturing	.0	.0
Leather	N.A.	N.A.
Furniture	N.A.	N.A.
Tobacco	N.A.	N.A.
Jewelry, silverware	N.A.	N.A.
All Industries	*10.6*	*10.9*

RETURN ON SALES

THE TEN HIGHEST

	SALES RANK	
Brown-Forman Distillers	406	15.7%
SmithKline Beckman	126	15.5
G.D. Searle	296	15.2
Eli Lilly	130	15.1
Capital Cities Communications	356	15.0
International Flavors & Fragrances	470	14.8
Merck	124	13.9
International Business Machines	5	13.7
Superior Oil	196	13.7
Fort Howard Paper	347	13.6

THE INDUSTRY MEDIANS

	1983	1982
Pharmaceuticals	10.4%	9.9%
Publishing, printing	7.5	6.5
Mining, crude-oil production	6.1	3.0
Beverages	6.0	5.4
Office equipment (includes computers)	5.7	5.7
Soaps, cosmetics	5.5	5.2
Measuring, scientific, photographic equipment	5.1	5.9
Electronics, appliances	4.8	4.5
Metal products	4.0	3.7
Paper, fiber, and wood products	3.7	3.2
Motor vehicles	3.7	2.1
Aerospace	3.6	2.8
Apparel	3.6	3.4
Chemicals	3.5	3.9
Petroleum refining	3.4	4.0
Glass, concrete, abrasives, gypsum	3.4	1.5
Textiles, vinyl flooring	3.2	2.1
Rubber, plastic products	3.1	.9
Shipbuilding, railroad and transportation equipment	2.9	2.8
Food	2.7	3.3
Industrial and farm equipment	1.8	3.2
Musical instruments, toys, sporting goods	.0	N.A.
Metal manufacturing	.0	.0
Leather	N.A.	N.A.
Jewelry, silverware	N.A.	N.A.
Tobacco	N.A.	N.A.
Furniture	N.A.	N.A.
All Industries	*3.8*	*3.6*

CHANGES IN SALES

THE TEN BIGGEST INCREASES

	SALES RANK	
James River Corp. of Virginia	209	114.3%
Coachmen Industries	463	80.4
Apple Computer	299	68.6
Amdahl	350	68.2
Allied	29	67.8
Smithfield Foods	422	65.7
Stone Container	391	53.7
National Distillers & Chemical	166	51.2
Morton Thiokol	231	51.1
Alumax	230	50.4

THE TEN BIGGEST DECREASES

Joy Manufacturing	390	39.1%
Cessna Aircraft	445	36.9
Smith International	375	35.0
NL Industries	239	34.7
CBI Industries	337	31.6
Trinity Industries	465	31.4
Tosco	153	28.0
Hyster	497	27.7
Hughes Tool	267	27.5
Baker International	192	27.5

THE INDUSTRY MEDIANS

	INCREASES
Motor vehicles	16.9%
Publishing, printing	12.1
Musical instruments, toys, sporting goods	11.3
Paper, fiber, and wood products	10.6
Aerospace	9.5
Office equipment (includes computers)	8.5
Beverages	7.2
Pharmaceuticals	6.4
Electronics, appliances	5.7
Textiles, vinyl flooring	5.7
Chemicals	4.0
Glass, concrete, abrasives, gypsum	3.9
Rubber, plastic products	3.7
Soaps, cosmetics	2.9
Shipbuilding, railroad and transportation equipment	2.7
Metal products	2.2
Food	1.9
Metal manufacturing	1.7
Mining, crude-oil production	.5
Apparel	.3
	DECREASES
Industrial and farm equipment	7.7%
Petroleum refining	4.6
Measuring, scientific, photographic equipment	1.9
Jewelry, silverware	N.A.
Leather	N.A.
Furniture	N.A.
Tobacco	N.A.

CHANGES IN PROFITS

THE TEN BIGGEST INCREASES*

	SALES RANK	
Northrop	123	1764.8%
Firestone Tire & Rubber	95	1750.0
Aluminum Co. of America	65	1513.0
American Hoechst	213	1051.5
Jim Walter	181	1051.1
Harcourt Brace Jovanovich	392	734.1
Boise Cascade	113	732.8
Hoover	387	608.5
Amdahl	350	586.5
Sun Chemical	364	389.2

THE TEN BIGGEST DECREASES*

Brockway	336	98.7%
Cameron Iron Works	307	97.8
Dresser Industries	112	97.0
Joy Manufacturing	390	96.5
ACF Industries	416	94.4
Norton Simon	136	91.0
Beatrice Foods	36	88.9
Penn Central	151	85.0
AT&T Technologies	26	84.9
Hyster	497	78.6

THE INDUSTRY MEDIANS

	INCREASES
Rubber, plastic products	171.5%
Motor vehicles	118.6
Glass, concrete, abrasives, gypsum	78.3
Metal manufacturing	27.0
Chemicals	26.9
Aerospace	23.6
Apparel	23.2
Beverages	23.0
Paper, fiber, and wood products	22.4
Textiles, vinyl flooring	22.2
Publishing, printing	21.0
Pharmaceuticals	13.5
Metal products	13.0
Shipbuilding, railroad and transportation equipment	10.8
Electronics, appliances	9.7
Food	8.9
Office equipment (includes computers)	8.7
Mining, crude-oil production	3.7
Soaps, cosmetics	2.1
	DECREASES
Industrial and farm equipment	15.8%
Petroleum refining	9.1
Measuring, scientific, photographic equipment	2.8
Musical instruments, toys, sporting goods	.0
Jewelry, silverware	N.A.
Leather	N.A.
Tobacco	N.A.
Furniture	N.A.

*Listings exclude money losers.

SALES PER DOLLAR OF STOCKHOLDERS' EQUITY

THE TEN HIGHEST

	SALES RANK	
Wilson Foods	171	$53.59
Smithfield Foods	422	32.85
American Motors	105	26.55
Michigan Milk Producers Assoc.	430	22.31
Frederick & Herrud	377	21.70
Swift Independent	152	21.60
Monfort of Colorado	250	19.61
Pabst Brewing	376	18.57
Interstate Bakeries	388	15.63
United Brands	109	15.59

THE FIVE LOWEST

Joseph E. Seagram & Sons	233	$0.56
Newmont Mining	370	0.49
International Harvester	104	-6.73
AM International	427	-7.10
Tosco	153	-38.94

THE INDUSTRY MEDIANS

Food	$4.55
Musical instruments, toys, sporting goods	3.86
Shipbuilding, railroad and transportation equipment	3.77
Aerospace	3.66
Beverages	3.59
Apparel	3.28
Motor vehicles	3.18
Rubber, plastic products	3.03
Textiles, vinyl flooring	2.95
Petroleum refining	2.91
Metal products	2.88
Metal manufacturing	2.78
Soaps, cosmetics	2.71
Electronics, appliances	2.70
Paper, fiber, and wood products	2.39
Chemicals	2.31
Industrial and farm equipment	2.25
Publishing, printing	2.18
Glass, concrete, abrasives, gypsum	2.16
Measuring, scientific, photographic equipment	1.94
Pharmaceuticals	1.93
Office equipment (includes computers)	1.88
Mining, crude-oil production	1.63
Tobacco	N.A.
Furniture	N.A.
Leather	N.A.
Jewelry, silverware	N.A.
All Industries	*2.66*

ASSETS PER EMPLOYEE

THE TEN HIGHEST

	SALES RANK	
Louisiana Land & Exploration	257	$1,118,085
Superior Oil	196	822,963
Pacific Resources	225	778,797
Amerada Hess	39	769,252
National Cooperative Refinery Assoc.	348	722,376
Shell Oil	13	630,070
Coastal	58	608,751
Standard Oil of California	9	598,888
CF Industries	328	574,871
Williams Companies	172	571,512

THE FIVE LOWEST

EG&G	318	$17,132
Interstate Bakeries	388	17,089
Hanson Industries	309	15,641
Oxford Industries	450	15,159
American Bakeries	460	14,884

THE INDUSTRY MEDIANS

Petroleum refining	$431,817
Mining, crude-oil production	290,032
Chemicals	120,977
Metal manufacturing	113,559
Paper, fiber, and wood products	108,792
Beverages	90,046
Pharmaceuticals	82,330
Publishing, printing	76,706
Glass, concrete, abrasives, gypsum	73,055
Soaps, cosmetics	72,634
Office equipment (includes computers)	67,300
Industrial and farm equipment	64,642
Aerospace	63,964
Metal products	61,027
Motor vehicles	60,718
Food	60,680
Rubber, plastic products	54,695
Measuring, scientific, photographic equipment	54,404
Electronics, appliances	53,509
Musical instruments, toys, sporting goods	52,690
Shipbuilding, railroad and transportation equipment	42,787
Textiles, vinyl flooring	34,898
Apparel	26,370
Furniture	N.A.
Tobacco	N.A.
Leather	N.A.
Jewelry, silverware	N.A.
All Industries	*70,238*

SALES PER EMPLOYEE

THE TEN HIGHEST

	SALES RANK	
Pacific Resources	225	$1,895,490
National Cooperative Refinery Assoc.	348	1,418,372
Tosco	153	1,333,797
Holly	484	1,228,296
Charter	61	1,159,509
Coastal	58	1,087,358
Amerada Hess	39	1,035,504
Louisiana Land & Exploration	257	827,593
American Petrofina	176	797,657
Michigan Milk Producers Assoc.	430	738,552

THE FIVE LOWEST

General Instrument	302	$39,768
Hanson Industries	309	39,137
Hartmarx	304	38,474
Kellwood	421	38,211
National Semiconductor	261	33,965

THE INDUSTRY MEDIANS

Petroleum refining	$481,410
Mining, crude-oil production	172,661
Beverages	142,258
Food	130,493
Chemicals	123,779
Soaps, cosmetics	113,135
Metal manufacturing	109,728
Paper, fiber, and wood products	107,457
Rubber, plastic products	99,009
Glass, concrete, abrasives, gypsum	93,035
Pharmaceuticals	90,208
Publishing, printing	87,972
Shipbuilding, railroad and transportation equipment	87,907
Motor vehicles	86,260
Metal products	83,471
Industrial and farm equipment	79,024
Musical instruments, toys, sporting goods	77,238
Aerospace	77,174
Measuring, scientific, photographic equipment	70,127
Electronics, appliances	67,615
Office equipment (includes computers)	66,423
Textiles, vinyl flooring	55,336
Apparel	48,618
Furniture	N.A.
Leather	N.A.
Tobacco	N.A.
All Industries	*92,226*

THE MONEY LOSERS

	SALES RANK	1983 LOSS
U.S. Steel	15	$1,161,000,000*
Armco	87	672,500,000*
AMAX	164	489,000,000*
International Harvester	104	485,285,000*
Kaiser Steel	396	422,770,000
Warner Communications	114	417,803,000
Tosco	153	378,098,000
Caterpillar Tractor	64	345,000,000*
Republic Steel	145	326,494,000*
Gulf & Western Industries	67	212,053,000
LTV	78	180,700,000*
Oak Industries	492	166,113,000
Bethlehem Steel	69	163,500,000*
National Intergroup	132	154,318,000*
United Brands	109	149,553,000
American Motors	105	146,730,000*
Texas Instruments	77	145,400,000
Allis-Chalmers	253	133,232,000*
Bucyrus-Erie	434	133,003,000
Kidde	161	123,799,000
Inland Steel	127	116,900,000*
Ingersoll-Rand	165	112,166,000
Crane	294	109,060,000*
NL Industries	239	107,402,000
Reynolds Metals	118	99,100,000
Smith International	375	94,553,000
Hughes Tool	267	90,873,000
Inspiration Resources	357	82,657,000*
Northwest Industries	183	80,400,000
Kaiser Aluminum & Chemical	140	74,900,000*
Bangor Punta	438	64,429,000
Baker International	192	63,518,000
Phelps Dodge	300	63,497,000*
Diamond Shamrock	89	56,163,000
Wheeling-Pittsburgh Steel	352	54,080,000*
Wilson Foods	171	42,877,000
Chromalloy American	297	42,223,000*
Storage Technology	322	40,867,000
Sybron	404	26,701,000
Mack Trucks	259	26,175,000*
Southwest Forest Industries	380	24,696,000*
Combustion Engineering	129	20,375,000
Cessna Aircraft	445	18,845,000
Economics Laboratory	384	15,652,000
National Semiconductor	261	14,176,000*
Lafarge	324	13,080,000*
Cincinnati Milacron	433	10,279,000
Midland-Ross	360	10,177,000
Interstate Bakeries	388	10,110,000
Coleco Industries	410	7,433,000
Kane-Miller	353	4,962,000
Anchor Hocking	349	4,337,000
GAF	374	3,841,000
Amsted Industries	458	3,800,000
Stone Container	391	2,922,000
United Merchants & Mfrs.	464	2,711,000
Cyclops	290	2,190,000*
Genesco	394	1,971,000
Stauffer Chemical	249	1,719,000
AMF	303	1,494,000

*Also lost money in 1982

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

	SALES RANK
Badische	382
Bairnco	486
Coachmen Industries	463
Cooper Labs	476
Fuller (H.B.)	493
Guardian Industries	468
Gulfstream Aerospace	417
Harte-Hanks Communications	485
Harvey Hubbell	490
Hillenbrand Industries	488
Inspiration Resources	357
Lafarge	324
Mack Trucks	259
Michigan Milk Producers Association	430
Pittway	491
Prentice-Hall	477
ROLM	454
Rorer Group	466
Rubbermaid	487
Sealed Power	494
Smithfield Foods	422
Tandem Computers	500
Tracor	495

RETURNED TO THE 500*

Avco (1976:305)	179
Macmillan (1981:487)	489
NI Industries (1980:436)	368
Riegel Textile (1981:499)	498

*Figures in parentheses indicate year and sales rank the last time the company was listed.

DISPLACED FROM THE 500

	1982 SALES RANK
American Hoist & Derrick	467
Barnes Group[1]	484
Bendix[2]	86
Butler Manufacturing	497
Carpenter Technology	458
Cone Mills[3]	398
Dan River[3]	440
Foster Wheeler[1]	215
GATX[1]	286
Gates Learjet	428
Geosource[3]	343
Gifford-Hill	471
Greyhound[1]	78
Harnischfeger	479
Heublein[4]	204
Kerr Glass Manufacturing	451
Knudsen[5]	466
Marion	477
Maryland Cup[6]	388
McDermott[7]	72
Natomas[8]	214
North American Coal	461
Porter (H. K.)	468
Rath Packing	490
Research-Cottrell	475
Wheelabrator-Frye[9]	227
Wyman-Gordon	463

[1] No longer classified as an industrial.
[2] Acquired by Allied (rank: 29) January 31, 1983.
[3] Figures no longer made public.
[4] Acquired by R.J. Reynolds Industries (rank: 23) October 12, 1982.
[5] Acquired by Winn Enterprises June 1, 1983.
[6] Acquired by Fort Howard Paper (rank: 347) August 31, 1983.
[7] No longer incorporated in the United States.
[8] Acquired by Diamond Shamrock (rank: 89) August 31, 1983.
[9] Acquired by Signal Companies (rank: 54) February 1, 1983.

Industry Companies are identified in the main directory by industry code. See page 322 for key.	Sales	Assets	Net income	Sales change from '82	Profits change from '82	Stock-holders' equity	Number of em-ployees	Net income as percent of: sales	Net income as percent of: stock-holders' equity	10-yr. earn-ings-per-share growth	Total return to investors: 10-yr. avg.	Total return to investors: 1983	Assets per empl.	Sales per empl.
AEROSPACE														
Avco	179	40	138	12	95	129	150	168	288	—	134	324	41	332
Bangor Punta	438	368	459	443	—	440	342	—	—	—	45	112	322	415
Boeing	27	36	44	45	153	40	28	287	218	29	14	205	187	130
Cessna Aircraft	445	313	447	498	—	323	367	—	—	—	145	382	177	389
Fairchild Industries	321	269	316	477	329	367	272	289	366	—	25	218	218	349
Gulfstream Aerospace	417	357	220	318	144	411	471	42	10	—	—	—	83	95
General Dynamics	46	112	56	114	39	109	24	231	27	33	27	33	468	329
Grumman	167	247	129	266	22	275	139	176	22	208	63	395	441	331
Lockheed	50	114	60	87	130	183	44	227	4	18	5	75	437	261
Martin Marietta	94	118	106	147	73	181	82	255	92	79	67	248	286	258
McDonnell Douglas	42	57	59	145	124	65	40	270	180	196	168	141	281	182
Northrop	123	192	140	27	1	228	106	300	81	31	16	320	424	274
Rockwell International	43	52	43	162	178	56	17	186	100	163	77	88	380	317
Rohr Industries	425	447	338	315	116	446	366	214	129	159	324	3	423	358
Signal Companies	54	54	136	38	303	51	60	379	394	309	129	190	170	174
Sundstrand	316	275	249	395	354	253	245	184	293	181	165	334	262	395
United Technologies	18	32	28	186	290	31	6	263	177	101	73	213	414	339
APPAREL														
Blue Bell	258	307	239	410	125	272	147	238	249	113	74	220	481	483
Cluett Peabody	325	392	328	327	206	377	205	299	216	71	81	137	487	480
Gulf & Western Industries	67	67	480	415	—	73	32	—	—	—	140	26	345	420
Hartmarx	304	349	275	134	173	351	156	236	165	153	102	194	493	497
INTERCO	150	193	161	383	344	165	67	274	308	274	209	340	471	475
Kellwood	421	464	399	396	108	474	228	366	205	256	242	177	494	498
Levi Strauss	143	172	81	212	74	142	76	83	66	3	33	349	431	425
Oxford Industries	450	489	346	63	100	468	267	207	36	171	11	61	498	493
Palm Beach	467	483	387	381	79	475	375	313	149	57	21	120	467	416
Phillips-Van Heusen	473	484	406	230	169	471	359	368	304	258	85	7	480	446
VF	280	343	117	36	117	287	157	22	7	25	50	95	492	489
Warnaco	456	467	317	308	177	432	311	130	84	179	68	270	473	466
BEVERAGES														
Anheuser-Busch	55	69	45	28	157	81	97	127	73	51	332	412	135	103
Brown-Forman Distillers	406	328	147	243	227	265	488	1	42	39	146	438	40	53
Coca-Cola	48	53	27	127	234	44	94	62	53	174	418	375	98	76
Coors (Adolph)	278	236	155	54	37	177	316	61	253	—	—	60	108	159
Dr Pepper	432	435	357	178	59	439	463	240	166	227	406	40	178	120
General Cinema	312	332	144	240	44	358	264	25	2	9	17	94	387	345
Heileman (G.) Brewing	268	353	205	25	138	371	396	179	21	17	9	109	197	73
MEI	402	400	272	47	164	430	440	110	28	10	4	255	183	137
Pabst Brewing	376	477	423	223	114	493	482	415	272	365	375	87	196	54
PepsiCo	44	61	57	232	131	79	10	256	112	137	343	353	470	471
Royal Crown Companies	459	475	385	245	296	461	432	304	206	300	278	125	383	230
Seagram (Joseph E.) & Sons	233	63	86	392	332	48	295	14	352	—	—	—	24	114
CHEMICALS														
Air Products & Chemicals	212	146	131	247	353	143	221	94	251	68	317	263	92	231
American Cyanamid	107	101	95	277	134	87	101	192	254	261	215	123	219	256
American Hoechst	213	222	285	188	4	204	341	356	381	—	—	—	84	71
Avery International	341	377	290	105	126	370	360	213	155	139	374	107	317	216
BASF Wyandotte	285	303	374	116	26	332	465	384	378	—	—	—	56	44
BOC	282	183	236	389	201	152	286	199	369	—	22	—	72	221
Badische	382	358	352	20	—	397	457	277	247	—	—	—	114	97

Industry Companies are identified in the main directory by industry code. See page 322 for key.	Sales	Assets	Net income	Sales change from '82	Profits change from '82	Stock-holders' equity	Number of em-ployees	Net income as percent of:		10-yr. earn-ings-per-share growth	Total return to investors:		Assets per empl.	Sales per empl.
								sales	stock-holders' equity		10-yr. avg.	1983		
Big Three Industries	385	244	245	446	371	216	427	89	336	124	265	418	47	131
CF Industries	328	259	—	404	—	260	491	—	—	—	—	—	9	24
Cabot	224	216	193	354	342	200	377	223	276	114	95	273	59	59
Celanese	122	109	126	204	—	123	166	267	275	290	189	81	110	118
Dexter	431	408	326	193	215	418	414	183	145	92	124	217	237	218
Dow Chemical	28	20	47	264	322	24	64	306	361	308	383	186	45	66
Dow Corning	355	285	183	91	121	268	406	44	142	—	—	—	78	128
Du Pont (E.I.) de Nemours	7	7	13	215	132	8	8	290	269	302	390	110	73	56
Engelhard	174	281	174	250	203	271	383	260	108	—	—	298	102	40
Ethyl	197	197	134	185	210	178	253	115	202	202	131	35	124	126
Fuller (H.B.)	493	482	388	30	82	472	460	281	130	70	29	52	349	209
Ferro	401	433	366	253	47	415	354	298	258	289	244	226	411	334
Grace (W.R.)	53	55	102	298	374	61	33	340	339	307	273	262	284	315
Hercules	148	151	88	205	55	107	161	97	174	260	393	199	182	184
Insilco	381	331	289	336	36	364	370	166	173	205	125	383	209	269
Koppers	221	230	309	406	—	231	233	365	393	353	263	164	212	189
Liquid Air	471	352	339	278	312	362	462	158	294	—	—	256	97	172
Lubrizol	343	319	191	346	106	261	459	54	169	228	392	287	65	69
Mobay Chemical	252	233	279	90	—	241	408	328	355	—	—	—	51	55
Monsanto	52	39	41	332	198	33	68	103	235	267	291	143	106	148
Morton Thiokol	231	238	170	9	362	235	220	159	153	133	136	92	259	264
NL Industries	239	169	466	496	—	156	256	—	—	—	191	440	77	170
Nalco Chemical	389	370	178	275	150	312	448	23	45	265	305	358	142	116
National Distillers & Chemical	166	163	188	8	321	155	251	314	373	351	206	301	76	78
National Starch & Chemical	359	366	240	164	133	336	425	112	122	—	—	—	166	111
Olin	185	173	175	216	112	179	206	250	305	305	97	184	154	196
Pennwalt	301	283	247	274	43	258	306	197	283	243	246	150	186	222
Reichhold Chemicals	362	420	355	424	11	421	453	317	255	246	141	38	190	84
Rohm & Haas	189	196	108	273	69	169	278	78	125	203	349	85	94	90
SCM	193	240	337	360	317	248	160	392	388	284	116	246	410	353
Sherwin-Williams	184	271	208	202	123	302	193	325	135	192	205	292	394	214
Stauffer Chemical	249	160	431	470	—	148	307	—	—	—	240	341	49	122
Sun Chemical	364	362	404	115	10	433	390	395	371	310	99	48	233	176
Tyler	306	363	370	149	53	425	303	369	248	166	55	96	381	234
Union Carbide	37	24	168	338	383	25	18	404	410	376	279	264	147	259
Williams Companies	172	59	217	31	71	122	349	346	391	348	427	56	10	48
ELECTRONICS, APPLIANCES														
AMP	228	223	99	50	104	186	178	24	41	81	258	55	325	375
AT&T Technologies	26	30	229	437	387	26	11	419	415	—	—	—	285	319
Allegheny International	160	167	318	474	358	318	108	399	—	—	300	291	367	421
Bairnco	486	437	345	60	158	456	458	164	86	14	8	89	201	203
Champion Spark Plug	354	341	327	362	279	308	258	259	334	362	422	396	412	430
Cooper Industries	190	164	177	484	370	110	131	241	376	282	213	252	277	427
Diebold	483	448	234	246	170	375	404	21	37	69	204	387	340	333
E-Systems	338	430	211	160	72	373	273	92	26	16	2	249	466	388
Eaton	138	141	151	182	—	153	85	284	280	332	160	47	353	384
Emerson Electric	111	132	51	340	277	84	69	47	78	120	360	343	388	386
General Electric	10	10	4	304	217	10	4	70	76	127	314	245	260	318
General Instrument	302	293	139	295	202	222	158	27	89	13	86	459	456	495
Gould	198	199	195	454	348	172	182	252	341	349	219	451	242	296
Harvey Hubbell	490	452	296	284	299	366	412	68	184	204	224	330	338	342
Harris	201	211	207	325	339	209	170	280	296	132	103	359	301	326
Hoover	387	444	319	310	8	423	231	218	117	336	330	4	491	486
ITT	20	17	21	436	287	17	5	187	234	317	264	108	384	473
Intel	272	186	121	37	15	133	175	29	256	19	69	8	221	469

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

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								sales	stock-holders' equity		10-yr. avg.	1983		
Johnson Controls	251	272	202	228	228	281	181	202	159	72	58	167	416	422
Litton Industries	74	76	68	388	340	77	46	181	193	32	32	129	330	393
M/A-Com	395	323	313	197	309	292	310	195	332	77	54	448	255	400
Magic Chef	361	409	333	102	29	410	374	273	233	130	61	31	348	215
Maytag	409	453	200	18	67	380	442	33	12	212	228	144	261	139
McGraw-Edison	175	194	293	414	363	230	142	383	372	334	230	360	360	357
Motorola	81	97	64	98	105	71	25	134	195	194	272	90	448	478
National Semiconductor	261	287	445	158	—	320	110	—	—	—	286	11	488	499
National Service Industries	311	367	209	224	229	321	215	118	97	121	60	156	476	458
North American Philips	97	144	146	56	118	173	56	344	317	229	128	62	436	399
Oak Industries	492	387	478	483	—	479	314	—	—	—	344	464	398	485
Pittway	491	455	329	235	292	382	416	113	210	97	208	297	343	337
Penn Central	151	108	365	480	388	96	115	408	—	—	450	154	206	363
ROLM	454	355	284	26	165	295	380	86	284	—	—	414	236	373
Raychem	413	364	310	169	327	342	339	156	244	63	373	312	328	396
Raytheon	59	81	52	192	295	74	39	167	111	47	113	411	392	321
Sanders Associates	415	380	277	23	98	346	315	102	183	106	30	74	390	428
Scott & Fetzer	397	390	302	238	167	391	239	165	131	235	268	272	463	488
Scovill	366	369	325	195	103	369	219	251	228	329	181	282	474	491
Singer	155	206	305	370	—	277	61	396	340	374	436	133	482	487
Square D	269	270	197	183	307	246	179	140	197	252	326	290	417	460
Texas Instruments	77	122	473	221	—	119	31	—	—	—	405	392	454	447
Tracor	495	459	336	190	156	441	348	126	109	115	12	345	445	472
Varian Associates	358	336	246	156	60	307	243	119	199	58	49	51	420	454
Warner Communications	114	99	484	457	—	160	189	—	—	—	43	453	71	81
Westinghouse Electric	34	33	36	359	282	35	12	191	185	125	234	136	280	370
Whirlpool	147	204	94	70	161	159	169	107	87	217	289	333	279	163
White Consolidated Industries	178	214	226	261	68	226	168	345	312	301	84	182	333	262
Zenith Radio	246	299	243	157	—	299	130	268	200	347	354	39	486	484
FOOD														
American Bakeries	460	496	419	411	—	492	372	405	237	—	172	258	499	414
Amstar	264	333	347	467	367	293	357	373	375	263	108	20	230	107
Anderson Clayton	244	284	356	471	380	233	257	386	395	257	211	354	258	179
Archer-Daniels-Midland	83	131	130	88	346	95	337	341	331	50	217	423	36	23
Beatrice Foods	36	58	252	294	389	60	34	418	407	378	338	153	313	164
Borden	85	121	84	256	200	100	122	203	172	129	195	275	203	132
CPC International	90	133	110	356	359	104	102	269	250	233	190	425	276	198
Campbell Soup	119	162	96	129	224	125	86	170	152	187	283	225	400	316
Carnation	116	178	80	334	255	135	186	125	82	105	308	219	195	91
Central Soya	200	347	334	352	122	331	362	390	314	327	419	432	251	58
ConAgra	162	277	238	17	83	350	227	359	93	55	19	254	321	106
Consolidated Foods	49	127	91	173	231	164	23	339	68	172	193	305	477	382
Dart & Kraft	33	49	38	366	141	43	37	200	136	190	297	399	250	143
Dean Foods	333	476	350	131	159	466	461	337	43	11	6	168	312	64
Esmark	88	82	120	48	233	146	51	316	231	80	62	117	305	398
Federal Co.	275	454	331	371	81	406	254	352	187	291	142	338	485	288
Flowers Industries	446	481	367	103	174	465	299	254	91	67	26	23	490	468
Frederick & Herrud	377	494	422	84	48	494	485	414	214	185	—	—	405	51
General Foods	41	70	54	343	88	75	53	261	121	142	232	188	244	124
General Mills	62	103	63	244	238	115	30	205	47	88	321	356	450	392
Gerber Products	372	399	268	282	291	345	287	145	167	162	110	34	435	405
Gold Kist	238	397	—	377	—	470	325	—	—	—	—	—	396	96
Hanson Industries	309	427	362	313	102	442	163	354	168	—	—	—	497	496
Heinz (H.J.)	100	150	71	300	218	128	79	129	58	15	169	135	385	286
Hershey Foods	202	262	141	168	254	225	238	120	90	38	89	325	257	161

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								sales	stock-holders' equity		10-yr. avg.	1983		
Hormel (Geo. A.)	241	359	321	337	284	355	388	364	246	78	156	339	229	63
IC Industries	96	77	152	348	46	116	89	348	356	271	212	148	162	242
Idle Wild Foods	398	493	417	123	375	487	490	410	342	315	—	351	246	36
International Multifoods	274	384	286	365	250	386	368	292	104	109	194	373	309	110
Interstate Bakeries	388	487	441	329	—	721	284	—	—	—	262	113	496	432
Kane-Miller	353	492	439	306	—	482	478	—	—	—	310	191	355	50
Kellogg	158	203	65	311	253	158	204	32	15	85	262	244	216	133
Land O'Lakes	121	314	—	449	—	385	392	—	—	—	—	—	136	20
Lipton (Thomas J.)	293	327	192	152	199	298	423	101	85	—	—	—	121	72
Mich. Milk Producers Assoc.	430	498	—	500	—	495	496	—	—	—	—	—	119	10
McCormick	365	403	264	260	70	387	385	146	63	54	365	318	304	186
Mid-America Dairymen	247	458	—	200	—	469	477	—	—	—	—	—	155	28
Monfort of Colorado	250	486	378	21	316	484	472	397	19	4	250	363	337	31
Nabisco Brands	56	84	48	291	269	83	45	147	56	82	220	314	376	287
Norton Simon	136	161	403	384	390	213	114	423	—	—	—	—	323	298
Pillsbury	102	138	107	171	273	161	57	245	148	94	173	116	429	410
Quaker Oats	146	205	206	342	360	208	155	358	310	278	293	152	326	194
Ralston Purina	71	155	61	328	18	138	58	155	25	91	307	79	443	279
Smithfield Foods	422	499	425	6	51	496	479	416	88	201	163	311	475	68
Savannah Foods & Industries	461	490	330	144	140	473	494	151	9	20	44	37	53	18
Shaklee	441	472	288	99	80	444	493	99	24	21	248	372	60	35
Staley (A.E.) Manufacturing	207	224	389	227	385	206	450	407	408	331	98	229	39	33
Stokely-Van Camp	444	469	382	435	278	443	447	315	263	168	—	—	316	169
Sun-Diamond Growers	447	445	—	286	—	486	484	—	—	—	—	—	113	70
Swift Independent	152	463	354	292	313	463	389	406	60	—	—	309	422	32
Tyson Foods	407	474	400	187	176	485	319	375	95	148	53	162	478	409
United Brands	109	246	475	441	—	378	81	—	—	—	353	29	483	306
Universal Foods	448	480	363	233	213	462	474	234	83	66	88	317	247	104
Wilson Foods	171	473	454	364	—	491	340	—	—	—	—	441	469	52
Wisconsin Dairies Cooperative	480	497	—	293	—	490	497	—	—	—	—	—	75	12
Wrigley (Wm. Jr.)	414	451	267	321	230	372	417	91	101	207	249	180	329	208
FURNITURE														
Mohasco	393	431	391	93	—	401	274	360	365	339	335	187	464	456
GLASS, CONCRETE, ABRASIVES, GYPSUM														
Anchor Hocking	349	354	438	452	—	341	277	—	—	—	130	27	406	391
Brockway	336	395	429	296	395	392	276	429	424	389	199	381	440	368
CertainTeed	288	298	295	34	—	294	338	288	323	345	367	368	193	158
Corning Glass Works	217	177	153	309	142	145	146	124	290	311	421	369	283	444
Guardian Industries	468	361	273	95	205	393	433	57	74	56	107	431	150	241
Lafarge	324	257	444	376	—	285	398	—	—	—	—	—	61	117
Libbey-Owens-Ford	266	290	263	208	33	255	225	266	313	354	290	210	364	355
Lone Star Industries	313	207	361	217	89	256	333	351	413	388	302	422	66	200
Manville	199	143	186	430	—	182	184	237	318	358	425	379	137	297
Moore McCormack Resources	496	265	396	487	58	300	486	335	402	277	52	376	31	99
National Gypsum	270	286	219	51	17	242	266	188	257	239	135	146	252	257
Norton	271	254	244	433	35	215	196	229	338	288	188	306	351	438
Owens-Corning Fiberglas	142	188	158	83	27	190	167	286	224	214	341	408	243	155
Owens-Illinois	115	104	181	378	338	102	78	361	382	357	226	176	270	320
PPG Industries	103	85	67	130	77	76	107	104	194	210	100	170	161	226
U.S. Gypsum	215	227	166	52	50	194	223	177	240	247	127	289	234	220
INDUSTRIAL AND FARM EQUIPMENT														
Allis-Chalmers	253	250	472	478	—	339	213	—	—	—	318	53	308	343
Baker International	192	152	458	491	—	144	185	—	—	—	363	445	144	266

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								sales	**stockholders' equity**		**10-yr. avg.**	**1983**		
Black & Decker Manufacturing	265	261	250	431	—	234	234	244	321	298	432	127	265	310
Borg-Warner	106	126	87	140	235	92	38	162	198	183	75	195	453	481
Briggs & Stratton	403	416	304	375	328	357	318	160	203	296	351	442	430	406
Brunswick	260	292	189	191	382	297	202	144	79	141	149	6	418	407
Bucyrus-Erie	434	351	471	479	—	361	455	—	—	—	430	295	109	138
Cameron Iron Works	307	239	424	469	394	236	364	422	420	373	355	430	80	151
Caterpillar Tractor	64	37	482	466	—	36	54	—	—	—	407	296	116	245
Cincinnati Milacron	433	329	443	488	—	337	317	—	—	—	66	216	266	434
Clark Equipment	327	288	393	465	—	259	280	391	403	377	413	128	228	325
Colt Industries	219	229	143	407	—	266	171	105	35	87	23	32	362	372
Combustion Engineering	129	129	448	448	—	189	111	—	—	—	414	402	239	277
Cummins Engine	216	220	415	305	351	252	200	424	419	384	223	57	267	285
Deere	92	46	341	455	378	58	74	412	417	382	350	201	103	278
Dover	292	309	171	361	314	251	244	67	120	53	57	409	375	346
Dresser Industries	112	96	416	468	393	70	91	427	423	386	395	371	217	291
Eagle-Picher Industries	443	424	380	316	111	379	353	320	353	318	185	24	403	408
Emhart	205	258	162	345	258	245	134	172	99	104	71	142	451	445
Federal-Mogul	363	338	261	297	87	335	248	141	175	150	90	242	421	449
Figgie International Holdings	386	385	360	397	326	419	260	285	221	116	126	276	446	463
Fuqua Industries	367	378	259	55	40	454	328	132	5	44	56	44	373	305
Hughes Tool	267	156	463	490	—	132	261	—	—	—	385	424	62	248
Hyster	497	388	412	492	386	334	441	377	406	361	167	41	172	272
Ingersoll-Rand	165	139	468	476	—	147	125	—	—	—	435	171	245	383
Joy Manufacturing	390	294	426	499	392	247	386	420	421	379	334	200	117	235
Midland-Ross	360	311	442	420	—	348	290	—	--	—	118	293	271	369
Outboard Marine	344	325	266	301	190	313	320	178	227	326	182	42	248	290
Peabody International	481	465	407	418	65	459	437	372	359	350	231	63	320	252
Rexnord	342	308	421	456	368	305	275	417	416	381	227	84	314	390
Roper	462	485	397	128	32	478	446	349	188	154	41	10	413	202
Smith International	375	255	464	497	—	238	365	—	—	—	382	456	90	263
Tecumseh Products	334	356	212	49	110	289	305	95	164	219	176	307	370	295
Teledyne	135	79	50	248	182	49	73	31	222	6	10	237	204	418
Textron	134	154	156	299	259	111	88	309	346	337	296	138	379	366
Timken	310	242	428	416	—	187	210	428	425	390	271	231	294	465
Trane	284	322	297	40	99	333	262	307	243	180	203	104	358	289
U.S. Industries	283	317	291	142	244	290	236	297	301	344	207	80	401	350
LEATHER														
Genesco	394	450	432	379	—	477	249	—	—	—	396	54	484	479
MEASURING, SCIENTIFIC, PHOTOGRAPHIC EQUIPMENT														
AM International	427	423	413	421	—	498	291	398	—	292	454	59	447	461
Ametek	478	457	274	226	101	424	403	50	32	74	37	58	371	338
Bausch & Lomb	424	365	254	136	93	354	350	72	110	89	266	348	307	385
Becton Dickinson	273	243	280	312	377	224	195	283	370	297	424	446	327	440
Bell & Howell	379	376	260	402	—	394	309	116	50	316	251	78	389	371
EG&G	318	443	241	106	184	390	191	161	30	22	91	460	495	482
Eastman Kodak	30	22	26	401	376	15	14	136	333	342	438	439	191	309
Foxboro	442	398	410	440	384	330	294	387	404	340	352	401	426	467
General Signal	220	215	154	369	325	180	164	131	245	151	319	319	344	401
Lear Siegler	236	279	194	349	306	257	188	208	179	64	31	197	415	362
Minnesota Mining & Mfg.	47	47	22	201	257	32	27	40	72	188	404	336	269	303
Perkin-Elmer	291	280	230	358	331	244	237	180	271	149	368	389	297	379
Polaroid	256	213	232	372	41	166	241	233	380	322	452	183	168	260
Sybron	404	379	451	385	—	399	331	—	—	—	417	163	366	387
Tektronix	263	248	237	331	356	202	180	224	337	138	229	224	378	450

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								sales	stock-holders' equity		10-yr. avg.	1983		
Xerox	38	28	32	320	225	28	16	138	267	303	453	165	185	307
METAL MANUFACTURING														
Alumax	230	195	176	10	49	203	252	189	238	—	—	—	125	167
Aluminum Co. of America	65	41	89	104	3	38	98	276	379	269	313	124	67	125
Amsted Industries	458	382	436	482	—	310	382	—	—	—	154	173	268	376
Armco	87	86	488	485	—	106	71	—	—	—	325	235	231	280
Asarco	229	145	203	122	—	149	302	239	396	371	366	393	44	105
Bethlehem Steel	69	65	477	408	—	103	66	—	—	—	397	114	200	246
Crane	294	340	467	434	—	363	285	—	—	—	104	189	365	250
Cyclops	290	374	433	71	—	428	347	—	—	—	144	17	335	150
Handy & Harman	418	419	401	89	129	457	421	374	315	211	93	436	249	201
Inland Steel	127	125	469	118	—	131	141	—	—	—	370	300	175	180
Interlake	332	320	344	172	13	324	324	332	351	276	143	175	235	253
Kaiser Aluminum & Chemical	140	90	460	353	—	112	216	—	—	—	276	198	50	85
Kaiser Steel	396	249	485	453	—	447	481	—	—	—	261	18	30	60
LTV	78	68	479	442	—	127	105	—	—	—	371	77	120	152
Marmon Group	235	245	258	451	333	286	224	319	302	—	—	—	264	254
NVF	295	—	—	44	—	—	—	—	—	—	115	281	—	—
National Intergroup	132	124	476	351	—	175	212	—	—	—	346	14	74	79
Newmont Mining	370	158	223	302	236	91	381	77	399	368	327	434	34	213
Northwest Industries	183	176	461	459	—	221	133	—	—	—	72	132	303	404
Nucor	439	401	322	132	135	360	467	163	239	59	20	178	127	112
Phelps Dodge	300	168	457	289	—	157	321	—	—	—	442	444	48	193
Republic Steel	145	110	481	344	—	139	154	—	—	—	336	25	132	192
Revere Copper & Brass	452	440	384	428	—	488	449	311	3	37	399	21	226	175
Reynolds Metals	118	95	465	120	—	117	144	—	—	—	255	86	123	162
Wheeling-Pittsburgh Steel	352	221	455	280	—	303	371	—	—	—	337	28	64	211
Worthington Industries	475	461	364	271	263	458	468	204	116	23	7	71	211	154
METAL PRODUCTS														
American Can	117	113	142	473	—	167	132	308	311	319	239	82	169	173
Ball	315	344	270	279	207	356	313	211	138	49	47	347	319	239
CBI Industries	337	274	251	495	373	267	358	152	277	244	448	455	129	210
Ceco	469	479	395	263	232	453	379	343	303	283	183	161	452	412
Chromalloy American	297	300	453	463	—	347	270	—	—	—	389	257	310	302
Continental Group	68	83	77	339	222	88	95	228	223	242	177	66	174	146
Crown Cork & Seal	254	291	227	382	194	240	263	232	278	198	394	253	274	206
Easco	457	471	405	86	310	464	411	370	326	314	159	140	402	281
Gillette	169	180	105	363	245	191	136	93	51	248	345	344	332	352
Harsco	331	318	323	458	337	291	282	278	349	279	106	206	291	336
Hoover Universal	351	393	300	24	45	409	363	221	98	176	82	76	341	224
Household Manufacturing	340	321	353	207	66	274	283	334	384	—	—	—	306	360
Illinois Tool Works	455	389	233	135	143	316	376	35	147	156	301	155	300	394
Masco	286	217	133	42	188	198	271	34	146	62	257	303	143	270
NI Industries	368	383	271	80	—	445	326	150	14	—	—	—	377	311
National Can	210	282	351	198	352	317	289	393	369	306	157	259	202	100
Parker Hannifin	289	295	314	429	372	273	203	323	364	321	196	49	427	448
Robertson (H.H.)	436	442	373	445	357	434	384	296	242	186	42	43	391	313
Snap-on Tools	474	429	253	229	195	359	422	41	94	108	386	316	263	300
Stanley Works	298	310	222	283	97	276	240	148	204	215	200	335	382	380
Trinity Industries	465	432	376	494	379	422	466	265	287	46	51	19	164	144
MINING, CRUDE-OIL PRODUCTION														
AMAX	164	66	487	393	—	85	246	—	—	—	434	364	32	80
Freeport-McMoRan	346	208	150	236	96	195	439	17	191	152	171	193	35	92

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								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Inspiration Resources	357	241	462	307	—	243	401	—	—	—	444	419	58	140
Int'l Minerals & Chemical	237	166	165	460	361	150	343	139	322	126	225	147	43	77
Louisiana Land & Exploration	257	185	148	189	145	210	492	71	140	272	433	72	1	8
Mitchell Energy	305	170	167	432	347	270	470	51	80	7	59	103	13	46
Occidental Petroleum	14	21	25	237	19	50	87	310	325	216	153	172	37	27
Superior Oil	196	51	66	450	243	53	391	8	270	41	274	239	2	43
Vulcan Materials	339	301	215	101	285	269	418	98	213	167	92	233	95	109
Westmoreland Coal	437	410	381	317	52	383	475	327	350	128	356	65	112	89
MOTOR VEHICLES														
American Motors	105	179	474	41	—	455	153	—	—	—	443	433	272	123
Arvin Industries	408	449	372	75	61	413	296	305	273	213	210	204	461	439
Chrysler	21	38	20	29	12	126	29	153	1	294	328	97	205	94
Dana	139	157	125	68	38	136	116	235	261	251	121	260	311	301
Echlin	428	414	308	92	186	376	369	143	182	175	376	266	372	351
Ex-Cell-O	308	316	231	413	266	278	250	157	219	146	112	100	369	365
Ford Motor	4	9	6	57	—	14	2	219	16	199	237	70	287	165
Fruehauf	173	191	408	94	—	249	149	421	409	383	178	68	315	314
General Motors	2	2	3	39	14	3	1	171	75	266	275	274	273	188
International Harvester	104	92	486	486	—	499	124	—	—	—	446	2	145	177
PACCAR	242	278	265	97	249	218	323	324	360	335	158	149	159	101
Sealed Power	494	460	315	82	127	398	436	88	163	135	70	284	298	275
Sheller-Globe	405	404	375	53	175	404	293	333	309	320	105	151	433	437
Smith (A.O.)	330	394	390	46	—	400	304	382	362	338	198	1	419	284
TRW	63	94	73	196	261	86	26	249	192	218	119	294	442	424
MUSICAL INSTRUMENTS, TOYS, SPORTING GOODS														
AMF	303	276	430	464	—	264	197	—	—	—	403	404	393	470
Coleco Industries	410	373	440	74	—	476	429	—	—	—	256	462	167	160
Hillenbrand Industries	488	438	282	137	192	389	415	53	96	234	120	207	289	328
Kidde	161	182	470	444	—	219	126	—	—	—	132	166	368	364
Mattel	248	297	257	66	241	349	235	293	119	—	340	465	374	249
OFFICE EQUIPMENT (INCLUDES COMPUTERS)														
Amdahl	350	304	242	4	9	301	393	117	196	—	—	268	128	149
Apple Computer	299	345	172	3	137	296	445	64	44	—	—	454	115	61
Burroughs	82	75	79	239	63	59	48	198	295	253	451	251	282	397
Control Data	76	31	100	199	262	78	59	258	291	178	309	278	70	304
Data General	335	289	342	269	297	263	230	326	386	170	372	22	339	455
Datapoint	440	337	409	209	23	322	329	388	405	264	87	119	275	431
Digital Equipment	84	62	58	155	350	34	42	96	320	27	361	458	296	441
Hewlett-Packard	75	73	39	143	208	45	43	43	133	24	214	321	331	413
Honeywell	60	60	69	241	319	57	22	230	265	224	320	93	386	429
IBM	5	3	1	72	139	2	3	9	23	98	306	227	153	183
NCR	101	89	55	225	147	68	49	66	161	96	174	111	336	435
Nashua	426	470	377	394	—	467	426	318	127	273	437	5	361	178
Pitney Bowes	211	201	160	107	260	223	151	154	150	—	38	131	346	426
Prime Computer	451	391	299	64	343	353	402	106	207	—	—	457	232	276
Sperry	66	50	119	426	369	55	35	350	387	324	410	134	256	411
Storage Technology	322	218	452	475	—	250	226	—	—	—	197	461	215	452
Tandem Computers	500	406	307	19	268	329	454	76	268	—	—	174	171	240
Wang Laboratories	227	184	103	22	94	163	174	36	106	2	3	299	222	378
PAPER, FIBER, AND WOOD PRODUCTS														
Bemis	373	415	394	268	171	431	352	378	347	286	180	247	399	283
Boise Cascade	113	111	201	65	7	99	140	376	392	369	192	315	157	157

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

Industry Companies are identified in the main directory by industry code. See page 322 for key.	**Sales**	**Assets**	**Net income**	**Sales change from '82**	**Profits change from '82**	**Stock-holders' equity**	**Number of em-ployees**	**Net income as percent of:**		**10-yr. earn-ings-per-share growth**	**Total return to investors:**		**Assets per empl.**	**Sales per empl.**
								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Champion International	86	88	164	100	42	80	96	367	390	367	303	280	179	190
Consolidated Papers	420	371	235	184	149	306	434	49	176	102	36	64	158	166
Crown Zellerbach	144	134	159	417	—	130	199	282	327	356	387	241	101	113
Dennison Manufacturing	399	422	306	170	76	396	346	174	137	164	80	105	408	344
Federal Paper Board	423	346	392	133	335	427	456	355	348	313	101	69	100	129
Fort Howard Paper	347	226	132	14	187	192	232	10	156	26	83	313	210	462
Georgia Kraft	449	330	303	242	302	326	476	108	262	—	—	—	52	86
Georgia-Pacific	51	56	135	58	349	69	99	381	383	360	400	428	104	87
Great Northern Nekoosa	222	174	163	163	252	171	265	149	285	160	162	45	81	142
Hammermill Paper	214	256	298	79	288	284	268	362	345	270	202	98	199	127
International Paper	80	48	62	180	78	37	121	121	354	281	380	250	63	135
James River Corp. of Virginia	209	237	214	1	34	314	201	275	114	8	15	159	295	265
Kimberly-Clark	120	106	85	138	289	90	120	128	190	161	187	234	194	237
Louisiana-Pacific	279	219	320	33	—	197	255	342	397	370	339	437	163	294
Masonite	499	456	379	403	—	402	428	247	328	355	391	416	293	299
Mead	149	159	255	357	—	176	217	380	385	343	152	12	111	102
Potlatch	317	235	262	148	54	237	334	201	374	341	218	377	93	205
St. Regis	141	107	213	179	148	89	152	363	398	366	388	145	134	195
Scott Paper	156	120	115	194	64	93	218	169	319	250	252	83	68	115
Sonoco Products	383	421	292	43	179	374	297	173	157	99	114	179	439	403
Southwest Forest Industries	380	305	449	78	—	405	397	—	—	—	333	230	126	181
Stone Container	391	264	435	7	—	352	330	—	—	—	35	16	138	359
Tyco Laboratories	419	417	358	252	300	437	378	248	170	111	117	73	356	312
Union Camp	204	137	111	146	251	121	214	63	232	206	287	157	87	232
Westvaco	232	198	198	265	283	184	229	217	330	285	241	99	156	219
Weyerhaeuser	70	45	74	77	155	39	93	220	367	364	426	426	79	153
Willamette Industries	287	273	348	111	—	288	356	357	377	352	235	406	130	136
PETROLEUM REFINING														
Agway	98	209	—	350	—	340	209	—	—	—	—	—	220	62
Amerada Hess	39	42	72	314	152	52	355	347	316	359	347	304	4	7
American Petrofina	176	210	210	419	275	227	487	336	282	287	282	420	11	9
Ashland Oil	45	74	137	439	365	140	138	394	368	312	281	390	86	45
Atlantic Richfield	12	11	9	390	301	11	70	114	154	43	348	374	19	21
Charter	61	175	218	16	75	217	438	401	297	184	175	355	28	5
Coastal	58	93	149	270	91	328	420	385	123	173	170	46	7	6
Crown Central Petroleum	208	324	420	400	364	412	409	426	412	375	150	214	131	42
Diamond Shamrock	89	43	456	32	—	47	247	—	—	—	329	397	23	41
Exxon	1	1	2	425	168	1	9	135	324	195	285	185	26	16
Farmers' Union Cent'l Exch.	243	315	—	386	—	338	480	—	—	—	—	—	42	26
GAF	374	407	437	117	—	429	464	—	—	—	298	310	146	75
Getty Oil	24	23	29	373	345	19	192	212	286	100	292	13	12	15
Gulf Oil	11	13	14	405	239	12	83	253	274	262	243	102	16	14
Holly	484	491	414	472	355	483	499	389	279	52	155	223	18	4
Kerr-McGee	108	80	118	412	366	82	308	272	357	230	441	361	27	34
Mapco	177	187	216	259	341	207	400	338	306	232	416	367	38	37
Mobil	3	4	11	427	237	6	7	330	241	231	221	288	54	39
Murphy Oil	157	116	112	423	324	154	407	137	178	165	312	221	17	29
Nat'l Coop. Refinery Assoc.	348	413	—	409	—	449	498	—	—	—	—	—	5	2
Pacific Resources	225	326	398	35	204	450	495	409	329	255	304	228	3	1
Pennzoil	163	87	98	285	311	114	335	84	186	221	260	398	25	47
Phillips Petroleum	16	18	18	368	214	16	143	190	215	110	408	350	20	19
Quaker State Oil Refining	319	348	278	367	294	344	444	226	189	254	415	322	118	67
Shell Oil	13	12	7	355	274	9	113	52	151	61	247	346	6	17
Standard Oil of California	9	8	8	481	191	5	92	123	229	220	253	329	8	13
Standard Oil (Indiana)	8	6	5	347	271	7	55	90	128	90	295	196	21	25

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								sales	stock-holders' equity		10-yr. avg.	1983		
Standard Oil (Ohio)	25	16	10	438	330	13	77	12	61	12	288	208	29	49
Sun	17	19	34	391	320	21	104	303	298	238	316	130	33	30
Tenneco	19	15	19	399	308	18	20	175	230	245	269	192	57	108
Texaco	6	5	12	461	286	4	62	302	307	325	322	267	15	11
Tosco	153	268	483	493	—	497	489	—	—	—	449	463	14	3
Unocal	31	29	24	374	334	23	187	109	208	140	254	286	22	22
Union Pacific	40	25	53	15	304	29	72	257	363	237	299	352	46	74
U.S. Steel	15	14	489	422	—	20	19	—	—	—	358	121	55	82
Witco Chemical	245	302	225	214	57	319	351	246	118	143	94	15	180	83
PHARMACEUTICALS														
Abbott Laboratories	137	115	46	112	160	98	117	18	17	30	79	308	208	292
American Home Products	73	100	23	218	212	67	63	13	6	103	377	323	342	268
Baxter Travenol Laboratories	191	153	70	150	183	124	118	19	55	36	362	427	292	459
Bristol-Myers	93	102	40	174	180	72	109	28	34	76	184	238	207	191
Cooper Labs	476	441	332	59	109	395	394	133	209	—	34	415	350	374
Johnson & Johnson	57	64	31	258	267	41	36	55	107	112	420	452	334	330
Lilly (Eli)	130	91	33	276	219	63	137	4	31	136	431	388	122	207
Merck	124	72	35	219	240	54	123	7	64	147	411	365	99	225
Miles Laboratories	277	260	287	13	20	254	269	291	344	—	—	—	213	255
Pfizer	99	78	37	177	113	62	90	16	40	107	357	380	165	251
Rorer Group	466	402	256	69	181	381	419	45	52	304	331	243	224	282
Richardson-Vicks	276	266	228	322	336	262	288	196	236	295	379	386	181	204
Robins (A.H.)	429	360	204	76	163	311	410	30	103	155	398	240	184	229
Schering-Plough	194	135	83	335	265	108	159	26	139	225	445	417	160	356
Searle (G.D.)	296	212	104	380	246	196	300	3	38	158	359	385	89	223
SmithKline Beckman	126	98	30	211	248	66	127	2	20	34	147	450	151	217
Squibb	195	165	90	203	211	113	162	38	162	226	402	384	214	361
Sterling Drug	188	202	109	222	264	168	165	81	132	236	409	261	288	308
Upjohn	182	148	101	176	128	141	177	59	126	177	428	212	149	247
Warner-Lambert	128	105	75	387	197	97	84	100	158	268	423	366	253	354
PUBLISHING, PRINTING														
American Greetings	369	339	248	61	107	328	211	111	160	119	369	160	458	494
Capital Cities Communications	356	251	122	96	166	211	361	5	67	35	76	302	91	238
Deluxe Check Printers	400	411	173	109	172	343	292	15	13	40	259	403	438	433
Donnelley (R.R.) & Sons	226	225	123	154	136	199	222	74	105	83	186	215	238	244
Dow Jones	326	312	124	62	119	282	395	11	11	48	39	118	133	121
Gannett	203	181	82	119	256	151	148	20	59	75	245	429	290	423
Harte-Hanks Communications	485	372	294	113	151	365	298	73	181	209	28	236	395	490
Harcourt Brace Jovanovich	392	381	324	108	6	420	336	215	134	123	166	106	357	347
Knight-Ridder Newspapers	234	228	116	139	185	185	173	58	143	95	164	370	359	402
Macmillan	489	428	335	166	—	436	399	122	113	197	280	269	302	381
McGraw-Hill	255	252	114	181	196	214	242	37	39	45	22	332	225	243
Media General	453	375	281	67	221	368	443	85	217	65	111	209	152	187
Meredith	479	405	301	330	162	408	483	79	102	—	13	101	82	98
New York Times	281	296	169	73	85	283	344	80	54	73	46	122	173	134
Prentice-Hall	477	412	269	165	247	388	405	48	70	193	216	378	254	327
Time Inc.	91	142	92	124	223	174	208	216	62	169	48	285	105	57
Times Mirror	154	136	76	110	92	134	145	60	77	86	138	279	198	271
Tribune	218	189	180	141	28	188	198	209	289	—	—	—	189	293
Washington Post	323	342	184	161	115	327	424	65	33	28	18	202	141	88
RUBBER, PLASTIC PRODUCTS														
Armstrong Rubber	411	426	369	262	226	416	435	294	264	118	133	342	227	156
Cooper Tire & Rubber	472	478	359	206	209	451	452	193	124	60	40	447	352	212

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								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Dayco	371	396	418	290	30	452	312	411	401	372	315	67	407	340
Dorsey	482	488	402	341	—	480	430	353	211	93	65	435	444	267
Firestone Tire & Rubber	95	119	128	326	2	105	52	321	300	346	311	277	409	417
General Tire & Rubber	168	171	185	220	21	162	119	301	343	328	137	158	354	419
Goodrich (B.F.)	125	130	371	210	—	137	135	413	411	380	267	413	188	185
Goodyear Tire & Rubber	32	44	49	121	193	42	13	295	260	293	236	443	404	341
Rubbermaid	487	462	283	81	120	407	473	56	69	84	323	211	192	141
Uniroyal	180	200	187	257	31	201	183	279	266	280	294	139	241	228
Walter (Jim)	181	128	179	287	5	193	194	262	281	275	222	407	88	199
SHIPBUILDING, RAILROAD AND TRANSPORTATION EQUIPMENT														
ACF Industries	416	231	427	489	391	304	373	425	422	385	342	91	69	323
Allied	29	35	145	5	381	46	15	402	414	387	378	30	278	273
American Standard	170	190	199	272	56	220	103	322	252	200	64	362	425	443
Coachmen Industries	463	495	340	2	16	481	451	182	8	5	1	9	479	197
FMC	110	117	93	323	220	94	129	185	220	189	201	126	176	168
Fleetwood Enterprises	329	466	312	11	24	435	332	264	65	145	24	232	462	233
Mack Trucks	259	263	450	398	—	239	259	—	—	—	—	—	223	236
Ogden	187	253	221	447	305	309	75	329	141	241	148	337	489	492
Todd Shipyards	345	439	311	153	293	460	281	242	18	1	139	394	465	377
SOAPS														
Avon Products	131	140	97	324	323	118	100	142	171	333	447	405	318	324
Chesebrough-Pond's	206	232	113	254	272	205	172	69	49	117	381	449	363	335
Clorox	314	334	190	231	84	325	413	82	46	182	270	357	140	93
Colgate-Palmolive	72	123	78	333	280	101	80	225	144	223	412	327	299	171
Economics Laboratory	384	425	446	319	—	414	387	—	—	—	429	328	347	227
Int'l Flavors & Fragrances	470	386	182	267	242	315	469	6	48	144	440	400	107	145
Lever Brothers	223	350	386	85	—	384	431	403	358	—	24	—	139	38
Procter & Gamble	22	34	17	255	216	27	50	87	57	122	384	410	96	65
Revlon	159	147	127	303	281	170	128	194	226	240	401	331	240	322
TEXTILES, VINYL FLOORING														
Armstrong World Industries	240	267	196	125	25	212	190	206	259	299	364	326	397	367
Burlington Industries	133	149	157	251	62	120	65	312	335	323	284	222	432	451
Collins & Aikman	378	418	343	288	146	403	322	271	225	249	78	36	428	348
Fieldcrest Mills	435	446	383	126	86	426	279	331	299	259	161	203	472	477
Lowenstein (M.)	412	436	349	167	90	417	301	243	212	191	151	115	449	442
Riegel Textile	498	468	411	234	298	448	345	371	418	330	122	283	460	474
Springs Industries	320	335	276	281	315	280	207	222	292	222	123	391	455	476
Stevens (J.P.)	186	234	368	213	318	232	112	400	400	363	233	421	459	457
United Merchants & Mfrs.	464	434	434	462	—	438	327	—	—	—	439	50	434	464
West Point-Pepperell	262	306	224	175	154	279	176	210	201	134	96	169	457	453
TOBACCO														
American Brands	79	71	42	151	270	64	41	46	71	131	109	181	324	436
Philip Morris	35	27	15	249	189	30	47	39	29	42	277	271	85	119

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NOTES TO THE FORTUNE DIRECTORY

SALES

All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales include rental and other revenues but exclude dividends, interest, and other non-operating revenues. Sales of subsidiaries are included if they are consolidated. Sales from discontinued operations are included if these figures are published. If the sales are at least 10% higher for this reason, there is a symbol (¶) next to the sales figure. All figures are for the year ending December 31, 1983, unless otherwise noted. Sales figures do not include excise taxes collected by the manufacturer, and so the figures for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves. If they are at least 5% lower for this reason, there is an asterisk (*) next to the sales figures.

ASSETS

Assets are those shown at the company's fiscal year-end.

NET INCOME

Net income is shown after taxes and after extraordinary credits or charges if any are shown on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Redeemable preferred stock is excluded if its redemption is either mandatory or outside the control of the company, except in the case of cooperatives. For purposes of calculating "net income as percent of stockholders' equity," any dividends paid on redeemable preferred stock, if that stock's redemption is either mandatory or outside the control of the company, have been subtracted from the net income figure.

EMPLOYEES

The figure shown is a year-end total except when it is followed by a dagger (†), in which case it is an average for the year.

EARNINGS PER SHARE

For all companies the figures shown are the primary earnings per share that appear on the company's income statement. These figures are based on a weighted average of the number of common shares and common stock equivalents outstanding during the year. Common stock equivalents generally include (a) convertible securities whose cash yield is less than two-thirds of the prime rate at the time the securities were issued and (b) options and warrants if the effect of their inclusion in the computation would reduce the primary earnings per share. Per-share earnings for 1982 and 1983 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes made after 1973. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies, or if the figures were not published in 1973. The growth rate is the average annual growth, compounded. No growth rate is given if the company had a loss in either 1973 or 1983.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price appreciation and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of 1983 of stock owned at the end of 1973 and 1982. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested at the end of the year in which they were received. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on only a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered.

Total return percentages shown are the returns received by the hypothetical investor described above. The ten-year figures are annual averages, compounded. If corporations were substantially reorganized—e.g., because of mergers—the predecessor companies used in calculating total return are the same as those cited in the footnotes to the earnings-per-share figures.

INDUSTRY CODE

Industry code numbers used in the directory indicate which industry represents the greatest volume of industrial sales for each company. The numbers refer to the industry groups below, which are based on categories established by the U.S. Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office. They are the same industry groups as those shown in the tables beginning on page 296. The median figures in the tables refer only to results of companies in the 500; no attempt has been made to calculate medians in groups with fewer than four companies.

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Most of the figures in this FORTUNE 500 Directory were prepared by Joan Campo and Sarah Smith, who are responsible for the columns reporting on companies' sales, assets, net income, stockholders' equity, and the industry code numbers. Figures on earnings per share and total return to investors were prepared by Claudine Knight.

MAY 14, 1984

$3.00

FORTUNE

HOW TO SNOOP ON YOUR COMPETITORS

AN HONORABLE MANAGER'S GUIDE

BLACK & DECKER'S GAMBLE ON "GLOBALIZATION"

THE SALARY STRAITJACKET CALLED COMPARABLE WORTH

CRACKS IN THE JAPANESE WORK ETHIC

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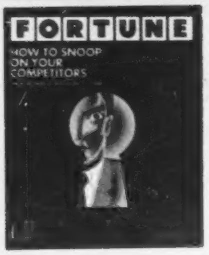
MAY 14, 1984 VOL. 109, NO. 10

FORTUNE

Looking Ahead



Snooping on competitors has become commonplace. In his cover painting, Leslie Cabarga used a keyhole and a peeping executive to symbolize the dubious new vogue. The reasons for snooping, and the methods, are examined on page 28.

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SELLING

MORE POWER TO THE PC CHAINS

The big personal computer retailers are getting bigger fast. That's terrible news for small computer retailers—and for the scores of manufacturers whose machines aren't proven winners.

by Joel Dreyfuss

AS SOON as personal computers were created, computer stores popped up to sell them. As the personal computer market boomed, the computer retailers flourished. And now, just when it looks as if big manufacturers are beginning to dominate the personal computer business, bigness is becoming the byword in retailing. "To be successful," says David Norman, founder of Businessland, a 28-store chain based in San Jose, California, "you have to be large."

The heady expansion of the market has showered prosperity, or at least the promise of it, over the hundreds of personal computer makers and the thousands of computer retailers that have sprung up in less than a decade. But it has also helped produce a curious situation: the manufacturers of less popular PCs are almost utterly dependent on the smaller retailers—who in turn are dependent on them. Lacking size and therefore clout, small store owners often can't get the best-selling brands, whose manufacturers can afford to be choosy. The dependence of the two weak reeds upon each other will eventually lead to their more-or-less simultaneous demise.

Computer stores will peddle almost half of the $12 billion of personal computers that will be sold this year, ac-

Mirror reflections *catch the heavy lunchtime traffic at a ComputerLand store in midtown Manhattan, one of the busiest franchisees in the 509-store chain.*

PHOTOGRAPH BY PHILIP LORCA DICORCIA

ED KASHI—GAMMA/LIAISON

William Millard *first founded IMS Associates, which in 1976 launched the IMSAI-8080, one of the early microcomputers—it came in a kit. But Millard got so many requests for dealerships that he started ComputerLand, a chain of franchisees with sales last year of around $1 billion. The founder-chairman and his family own over 95% of the company.*

cording to Future Computing, a Richardson, Texas, research company. The other half will be sold mainly in department stores, by mail order, or by computer manufacturers selling to businesses direct. By 1988, when personal computer sales could top $30 billion, industry forecasters predict computer stores will number 6,900, up from 4,000 at the end of this year. After 1988 the growth of outlets is likely to slow. "The window is not going to be open too long," says Norman. William Ladin Jr., chairman of ComputerCraft, a Texas-based chain of 32 stores, predicts, "In a few years there will be five to ten major retailing chains."

On the theory that only the biggest will survive, retailers are expanding furiously. ComputerLand, the second-largest chain after Tandy, has 509 U.S. stores under franchise now and expects to have 750 by the end of the year. Privately held, the chain predicts its stores' 1984 sales will be almost $2 billion, double last year's. Entré Computer Centers, based in Vienna, Virginia, had sales of $48 million in its fiscal year, which ended last August. In fiscal 1984, it expects sales to quadruple to $210 million, as its franchisees expand from 150 to 250 by year-end. IBM, which has 79 company-owned IBM Product Centers, is opening new ones at the rate of one a week. More than a half dozen companies, including Entré and Businessland, have gone public in the last 12 months to raise capital to open additional stores or buy up mom and pop computer stores.

RESEARCH ASSOCIATE *Daniel P. Wiener*

The concentration of retail power will leave computer makers with fewer avenues to the consumer. There are precious few now. Though 200 manufacturers offer some 400 different models, most retailers limit their inventory to around five computer lines. For one thing, the dealers' salespeople have to understand and demonstrate each model they sell. "It's the span-of-knowledge problem," explains Richard Matlack, president of InfoCorp, a Cupertino, California, market researcher. For another, the retailer may lack shelf space for dozens of different computers and the peripheral equipment and software that go with them.

INFOCORP ESTIMATES that IBM and Apple hold 45% of the personal computer market between them. Future Computing figures that Compaq, DEC, Kaypro, Texas Instruments, and Epson round out the list of best-selling computers carried by computer stores. Invariably, the big chains offer the top sellers—this, in turn, boosts the big brands' cachet. "When a computer is sold by a major retailer," says William Campbell, vice president of marketing and sales for Apple Computer, "it is enhanced in the eye of the consumer." No such halo effect surrounds computers sold in small stores without attachments to a larger chain. But most computer manufacturers—those outside the big-brand club—must rely on such stores anyway, since that is often their only way of getting products to the consumer.

Yet minor stores handling minor products seem doomed. World Of Computers, a Denver-based company, is making a good business of converting mom and pop stores into company franchisees—and not by buying the independents out. The small stores are so anxious to become part of a chain, and thereby gain access to a top line of products, that they willingly plunk down a $25,000 franchise fee. The price tag is cheap by comparison with what it costs to hang out a ComputerLand sign: $75,000.

Byte Industries, a Hayward, California, chain that started franchising in 1982, recently sold MicroAge Computer Stores the right to sign up all 22 Byte Shops. The shops had an okay line of computers—they sold

Franklin, Eagle, Kaypro, and Epson brands. But, says Robert Miller, Byte executive vice president, "The main problem was that we could not get leading products. We couldn't get an agreement with IBM." MicroAge is a 54-store Arizona-based chain whose principal owner is Olivetti, the Italian office equipment company. It handles a broad line of computers, including IBM.

Everything seems to favor the big guys. "The economics of running a single store don't compare with running a chain," says Esther Dyson, president of EDventure Holdings, publisher of a computer industry newsletter. Chains enjoy economies of scale in advertising, distribution, and training. Even more important, they can get better prices on their products from the manufacturers. Small independents usually buy at 75% of list price while large chains often pay only 60% to 65%. Many industry analysts predict that the present shortages of the more popular brands will disappear and discounting will spread. When that happens, the mom and pops will be hard pressed to make money. To escape the margin squeeze, more and more small independents will be willing to fork over the franchise fees.

While most of the big chains are franchise operations, those owned by manufacturers—IBM's Product Centers and Tandy's Radio Shacks, for example—don't offer franchises. Nor do some of the new computer store chains such as Businessland. The company-owned chains argue that when it comes to customer service, they have the edge over their franchising competitors. The franchisers argue just the opposite. But both agree that service is the computer retailers' primary marketing tool—though that may strain the credibility of anyone who has been either intimidated by a salesperson spouting computerspeak or appalled at how little the help seemed to know.

THE RETAILERS' mantra seems to be: we're not selling computers, we're selling solutions to problems. Both franchised and company-owned stores assure their customers that they stand ready to do as much handholding as necessary—from sending a sales representative directly to the customer to installing the computer, training the user, and answering questions at all hours about the machine's mysterious workings. All the handholding is obviously far too expensive for a small independent to even consider.

ComputerLand and Entré contend that their extensive training requirements—ComputerLand store owners must undergo a month of training—guarantee consistent service. They insist that a franchisee will work harder than a corporate employee to satisfy customers. As Steve Heller, executive vice president of Entré, argues, "a franchisee has a house, a car, and the store on the line."

Retailers with company-owned stores counter that franchisers cannot control service and guarantee dependability in a far-flung empire of fiercely independent entrepreneurs. Norman of Businessland claims that a company-owned chain can attract better employees, and keep them longer, than the manager of a franchised store, by offering a corporate career ladder to climb. Businessland salespeople average $50,000 a year in salary and commissions; top performers earn over $100,000.

Some retailers use a straddle strategy and have both franchisees and company-owned stores. Valmont Industries of Valley, Nebraska, one of the largest manufacturers of specialized irrigation equipment in the world, found that its farmer-customers were intrigued by the computers it used in its business. In 1982 Valmont began selling IBM computers to farmers and soon discovered a market of lawyers, doctors, and accountants in rural America. The company now has 50 company-owned stores and 72 franchisees.

IF SIZE AND SERVICE turn out to be the keys to successful computer retailing, consider the threat IBM poses for the other retailers. IBM not only makes the most popular office computer, the IBM PC (as well as the not-so-well-loved PCjr), it also distributes a lot of them through that ever enlarging chain of IBM Product Centers and through its own corporate sales force. At many of the 1,400 other computer dealers lucky enough to carry them. IBM PCs are the biggest-grossing product. William Millard, founder, chairman, and principal owner of ComputerLand, says IBM is not prone to "infantile or inappropriate be-

The Top Ten Chains

At the end of March, ten computer retailers had 50 or more U.S. outlets, but most concentrated on a narrow line of products.

STORE NAME PARENT COMPANY	**NUMBER OF STORES** **Company owned**	 **Franchised**	**PRINCIPAL COMPUTER BRANDS SOLD**
RADIO SHACK COMPUTER CENTER Tandy Corp.	**1,114***	**0**	**Tandy/Radio Shack**
COMPUTERLAND ComputerLand Corp.	**0**	**509**	**Compaq, DEC, IBM, Texas Instruments**
ENTRE COMPUTER CENTERS Entré Computer Centers Inc.	**1**	**150**	**Compaq, DEC, Grid, IBM, TeleVideo**
VALCOM COMPUTER CENTER Valmont Industries Inc.	**50**	**72**	**Compaq, IBM**
TEAM ELECTRONICS Team Central Inc.	**9**	**83**	**Apple, Columbia**
IBM PRODUCT CENTER IBM Corp.	**79**	**0**	**IBM**
CONTROL DATA BUSINESS CENTER Control Data Corp.	**55**	**0**	**Hewlett-Packard, Wang, Zenith**
MICROAGE COMPUTER STORES MicroAge Computer Stores Inc.	**1**	**53**	**Altos, Apple, Compaq, Corona, DEC, Hewlett-Packard, IBM, TeleVideo**
DIGITAL BUSINESS CENTER Digital Equipment Corp.	**52**	**0**	**DEC**
SEARS BUSINESS SYSTEMS CENTER Sears Roebuck & Co.	**50**	**0**	**Compaq, IBM**

*Including 682 Radio Shack electronics stores that sell a full line of Tandy computers.

BUSINESSLAND
BUSIN LAND

JOHN HARDING

With $50 million *in capital, Businessland founders David Norman (left), formerly head of Dataquest, a Silicon Valley research firm, and Enzo Torresi, a former Olivetti executive, aim to expand from 28 stores to 80 by the end of the year. Businessland averages $5 million in annual sales per store vs. ComputerLand's $2 million.*

havior." But Millard and others acknowledge that IBM could end up favoring its own sales force or retail stores with special prices, products, or promotions. Says Millard, "We all want to be No. 1 and we're working hard so we won't be slave to another No. 1."

Perhaps for that reason, ComputerLand is putting the finishing touches on an agreement to sell Apple computers. The big retailer buys computers in huge volumes and then sells them at its cost to its franchisees—in return for 8% of the retail gross. ComputerLand had bought Apple IIs for its stores until July 1982, when it split with Apple because the computer maker wanted the right to approve new ComputerLand locations. Apple was seeking to protect its existing dealers, generally small independent retailers of the mom and pop variety. When ComputerLand refused to go along, Apple stopped supplying its products to ComputerLand—though it continued to sell direct to some ComputerLand franchisees. The new agreement between Apple and ComputerLand apparently doesn't give Apple any say about where ComputerLand's stores can be located.

As chains have become more powerful, manufacturers are increasingly having to demonstrate that their products will sell even *before* the chains will accept them. Yet, as a man who owned one of the first ComputerLand franchises notes, "It's a chicken-and-egg sort of thing. What retailers carry determines what gets sold." Entré reports receiving audiocassette presentations from several small manufacturers pleading for shelf space. Some vendors put their products in stores without payment for up to 90 days to try to convince dealers that they will sell.

EVEN APPLE has had to struggle. It tried vainly to get Businessland to carry its Apple II line; the retailer judged it too much a home computer for its exclusively business clientele. After Apple mounted its $50-million product introduction for the Macintosh, a more powerful machine with sophisticated computer graphics, Apple and Businessland came to terms.

When Compaq introduced the first IBM-compatible transportable computer, now a proven success, Entré waited about six months to see if the product would sell before taking it on. "Everyone wants to sort out the winners," says Entré's Heller. "We don't have to make that guess. We just wait and see."

TeleVideo Systems took an indirect route to get into the chains. Because TeleVideo was an industry leader in the production of computer terminals before it introduced its personal computer line last year, the company chose to market the computers through the distributors who had been selling its other products. Backed by a $20-million ad campaign, the distributors sold the line well enough to attract the chains' attention. Entré and ComputerLand picked it up at the beginning of this year. "Most companies try to get into the big chains first," says Frank Zurcher, executive vice president of TeleVideo. "That's dangerous because [from the retailer's point of view] you're either hot or you're not."

MINDSET CORP., a well-financed start-up, learned that lesson early this year when it introduced a new IBM-compatible computer with powerful graphics capabilities. Though the computer got favorable reviews and extensive coverage in computer magazines, Mindset had trouble lining up a retail distribution agreement. Mindset President Roger Badertscher insists that he will succeed in gaining access to top-tier distributors. But he concedes, "There's no question that the retail channel has a lot of products, and shelf space is an issue."

In the long run, computer makers could develop machines so easy to use, and to sell without special handholding, that they could be marketed almost anywhere, like calculators. But in the meantime, the narrowing of the retail channels is likely to bring on that much-discussed shakeout of personal computer makers that has so far failed to materialize. And as the weaker manufacturers fall by the wayside, so will the smaller retail chains.

With the industry's sales predicted to grow at more than 30% a year over the next few years, though, the survivors will prosper mightily. Millard of ComputerLand describes the computer-retailing industry today as "a pressure cooker. Everything is in turmoil." But Millard, who intends to be one of the survivors, certainly isn't fretting: "Everyone knows the market has an incredibly bright future." And it's brightest for the biggest.

yield muni funds, a fast-growing species that concentrates on lower-grade bonds. Peter Gordon, executive vice president of T. Rowe Price, favors a prudent compromise. He advocates putting about 30% of your money in long-term funds, 40% in intermediate funds, and 30% in short-term funds as a kind of cash reserve. If you think interest rates are heading down, you can always trade in short-term shares for long.

Hospital Stocks: The Vital Signs Are Good

■ Anxieties over the government's tight-fisted new policy on Medicare reimbursement, as well as other worries, have landed hospital stocks in the emergency ward. After a decade in which companies that run hospital chains for profit were market superstars, prices tumbled 27% in the latter half of 1983.

COMPANY	REVENUES in millions Fiscal year-end	NET INCOME in millions	STOCK PRICE RANGE last 12 months	RECENT PRICE P/E multiple[1]
Hospital Corp. of America	$3,203.0 12/31/83	$243.2	$35.375– $56.625	$38 11
Humana	$1,765.1 8/31/83	$160.6	$19.50– $33.25	$23.75 12
National Medical Enterprises	$1,765.0 5/31/83	$93.0	$18.875– $32.375	$19.125 11
American Medical International	$1,339.6 8/31/83	$101.5	$20.625– $37.25	$24.125 12
Charter Medical	$358.7 9/30/83	$26.9	$17.50– $30.125	$21.25 13
Community Psychiatric Centers	$138.2 11/30/83	$26.9	$25.375– $45.50	$29.25 17

[1] Based on earnings estimate for current fiscal year compiled by the Institutional Brokers Estimate System.

Hot Stocks That Cooled

Their share prices may be down, but earnings go right on climbing at these hospital companies. None has suffered an earnings-per-share decline for at least eight years.

Now the stocks look hardy again; they've held their own this year as the indexes sank. They may even be underpriced, with many selling at 12 times projected 1984 earnings. That's too low, say most Wall Street analysts, for companies whose profits are expected to grow by at least 20% annually over the next several years.

Hospitals can no longer count on Medicare, typically the source of about half their revenues, to pick up all the expenses of an elderly patient's stay. Under new rules being phased in over three years beginning last October 1, the federal government will pay a flat sum for treating a particular illness, regardless of a hospital's costs. Inefficient hospitals could lose a bundle.

The new rules hit at a time when occupancy is down at many hospitals. Some employers, anxious to rein in their health insurance costs, are requiring employees to chip in more for medical services. As a result, many would-be patients are passing up elective surgery and other procedures normally done in hospitals. Other patients are turning to lower-priced alternatives, such as free-standing surgical centers that run on an outpatient basis. "The cost of hospital care is so great," says David Lothson of Paine Webber, "that it is influencing private consumption dramatically." So dramatically, in fact, that he's not generally recommending hospital stocks.

Most analysts are bullish, though. David Talbot of Drexel Burnham Lambert says hospital stock prices don't reflect the companies' prospective earnings growth over the next few years and their ability to adapt to the new reimbursement rules. Because of tight cost controls and better management, most Wall Streeters say, hospitals that are run for profit can survive better in the new climate than nonprofit institutions. The hospital companies have also been expanding into services, such as surgical and convalescent centers, that should be in bigger demand as hospital usage falls.

Nashville-based **Hospital Corp. of America**, the largest company in the industry, and **American Medical International**, headquartered in Beverly Hills, are favorites of Kenneth Abramowitz of Sanford C. Bernstein. Both own lots of hospitals in one-hospital towns, or in small cities where theirs is the dominant facility, and both have other products in their medicine chests.

A POTENTIAL MENACE to hospital chains is the rise of health maintenance organizations (HMOs), which offer across-the-board medical services—outpatient and hospital care—at flat "subscription" rates. With a built-in incentive to avoid excessive treatment, the increasingly popular HMOs have reduced hospital stays. So far, most hospital companies haven't operated in locales with HMO competition.

Meanwhile, most of the large chains have moved boldly to attract more patients. They're testing so-called preferred provider organizations (PPOs)—insurance programs that offer financial incentives to use the chain's own hospitals rather than others. The company doing it just right, says Talbot of Drexel Burnham, is **Humana**, whose PPO promises a lid on increases in employers' medical premiums. The Louisville company also has the highest return on equity in the industry. Slightly smaller than Humana is **National Medical Enterprises**, which launched a PPO in April.

Investors who are extra jittery about the future of acute-care hospitals should consider two chains recommended by John Hindelong and Charles Schaible of A.G. Becker Paribas. Patients or private insurers pay most of the bills at **Community Psychiatric Centers**, a San Francisco-based chain that also owns 44 kidney dialysis facilities. The company has one of the strongest balance sheets in the industry and a high price-earnings multiple on its stock. More reasonably priced is **Charter Medical** of Macon, Georgia, which now gets 40% of its revenue from psychiatric hospitals. Over the last five years the company's earnings per share have grown at a 46% annual clip.

MAY 28, 1984
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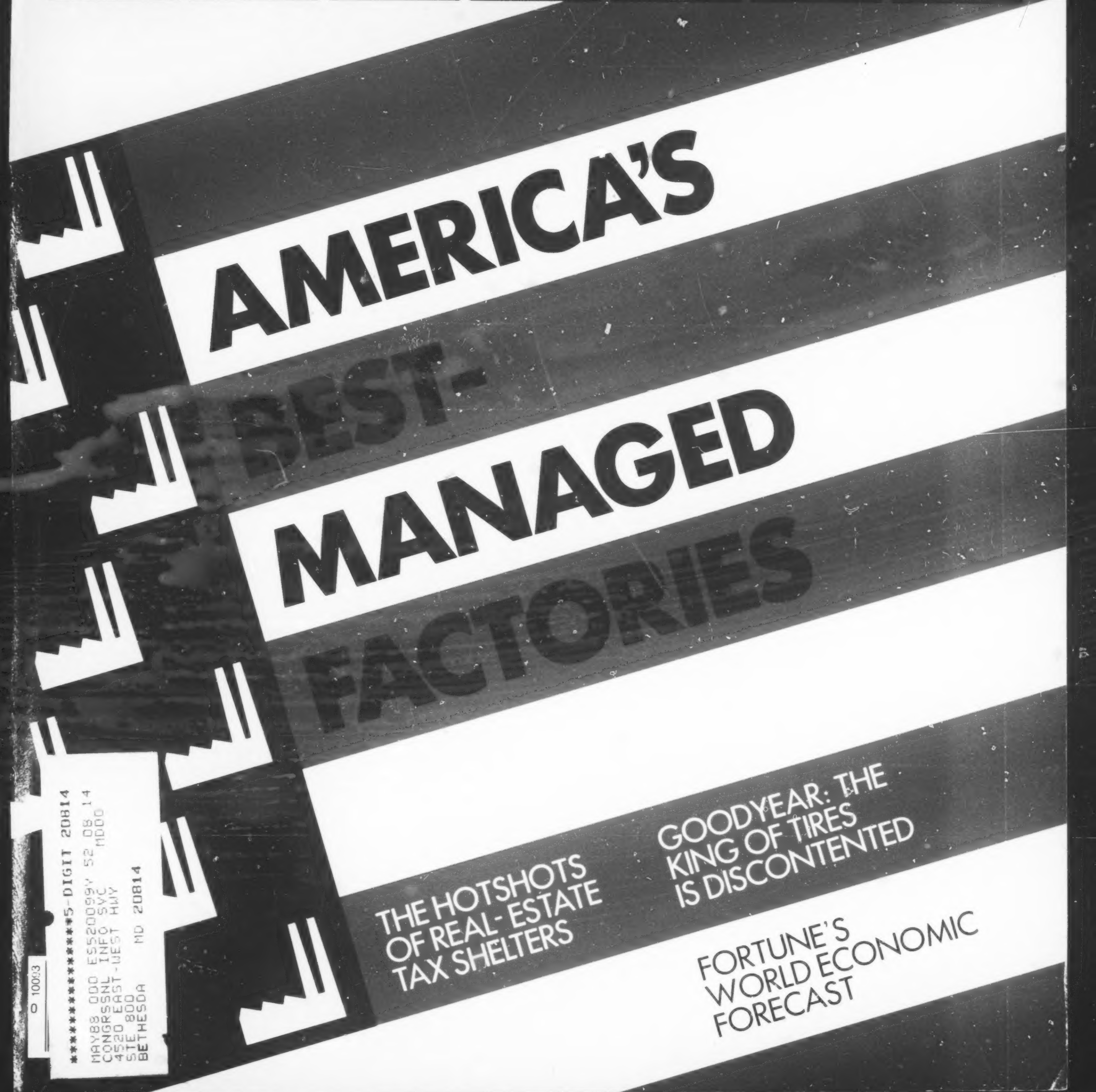

AMERICA'S BEST-MANAGED FACTORIES

THE HOTSHOTS OF REAL-ESTATE TAX SHELTERS

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FORTUNE
Corporate Performance

FORTUNE

AMERICA'S

MANAGED

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CORPORATE PERFORMANCE

CONGLOMERATES ARE DOING BETTER THAN YOU THINK

The 88-year-old founder of Textron finds—contrary to myth—that diversified companies outperform nondiversified companies, especially in hard times. Unfortunately, he adds, diversifying by acquisition is a lot more expensive today than it used to be.

■ *by Royal Little*

AS THE FOUNDER of the first conglomerate, Textron, I am particularly interested in dispelling the myths that surround these companies. They are reputed to be less profitable than nondiversified companies and to trade at a discount on the stock market. The surprising truth is that, measured by return on shareholders' equity, the conglomerates are outperforming the rest of industry and their shares recently sold at higher price-earnings multiples.

To get at the facts about conglomerates, I have—with the help of FORTUNE's staff—compared the performance of 39 conglomerates and 226 nondiversified industrial companies on the FORTUNE 500 list that had more than $1 billion in sales in 1983. We took the comparison back to 1978, the year the Securities and Exchange Commission required companies to begin reporting on the performance of their divisions. Before then it was hard to tell how many lines of business a company was in. How many businesses must a company be in to qualify as a conglomerate? There's no universal definition. For this article, I used FORTUNE's rule: a conglomerate must have at least four unrelated businesses, none accounting for more than 50% of its sales. (For more information on the methods used, see the table on page 52.)

The nondiversified companies did produce a higher median return on shareholders' equity in 1978 and 1979. But in 1980 the performance of the two types of companies tied, and during the next three years conglomerates came out ahead. Moreover, the conglomerates achieved a greater margin of superiority than the nondiversified companies did in their good years.

The recession year of 1982 shows emphatically how diversity protects a company from business cycles. The conglomerates scored a median return of 12.5% vs. 10.8% for the others. Only three conglomerates on our list lost money that year. And two, Colt Industries and Crane Co., hit the skids because they had got too involved in a single business—steel. Many nondiversified companies had terrible losses in 1982. Bethlehem Steel and International Harvester lost more than $1 billion each. Nine other companies among the FORTUNE 500 dropped between $50 million and $100 million, and 18 dropped between $100 million and $1 billion. Total deficits among nondiversified industrials amounted to $8.2 billion. Service companies were badly hurt too. Federally insured savings and loan institutions lost $4.3 billion and the airlines $916 million.

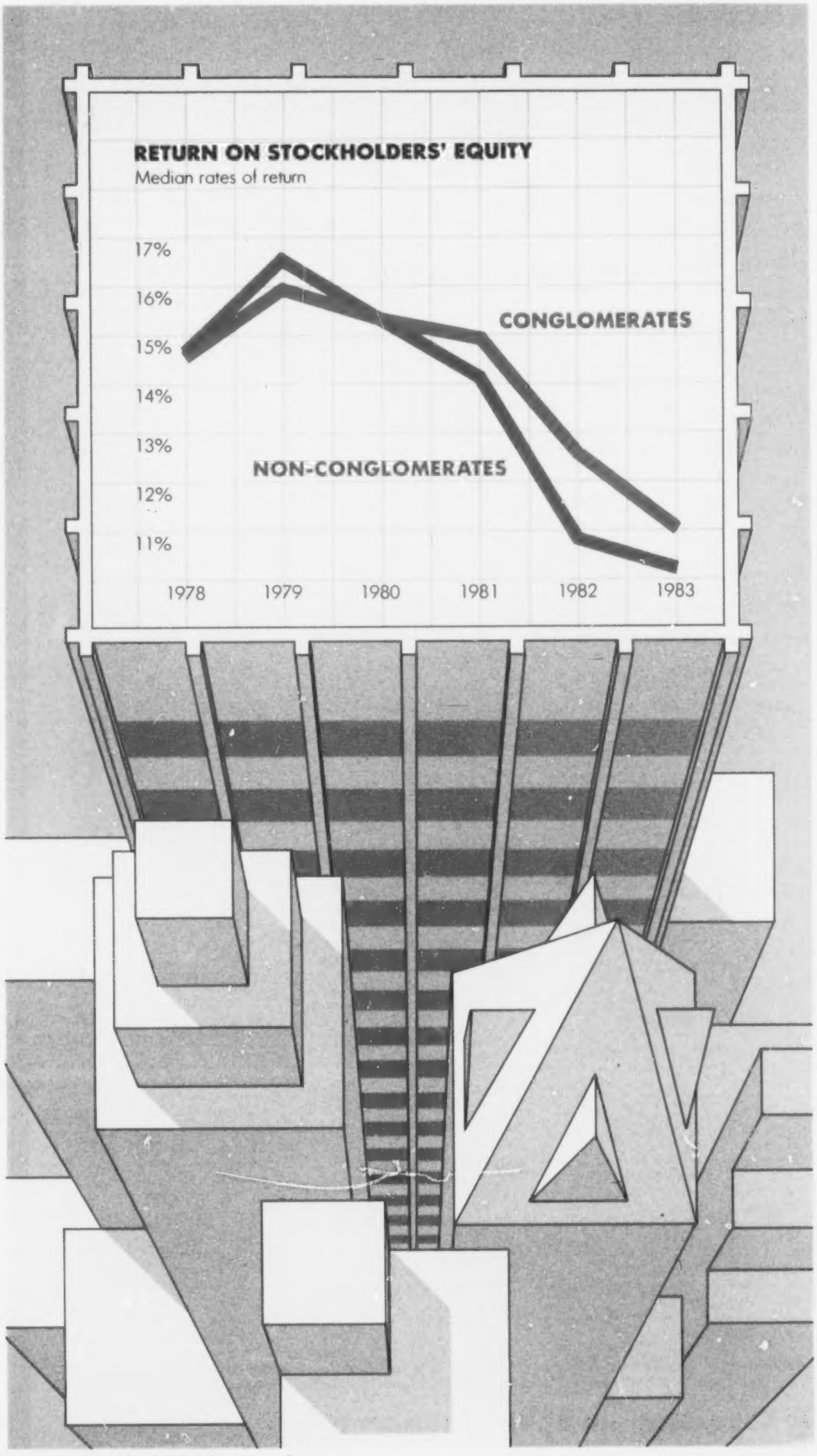
Judging by median price-earnings multiples, the so-called conglomerate discount no longer exists—and I'm not sure it ever was significant. Wall Street may have just found the companies hard to analyze. At the end of 1978, 1979, and 1982 the nondiversified companies sold at a slightly higher multiple than the conglomerates. The two kinds of companies were tied for 1981, and the conglomerates had a higher multiple for 1980 and 1983. Conglomerates are better understood now—though Wall Street still hasn't put enough well-trained specialists on the job of following them. They sold for a median price-earnings multiple of 12 in 1983, compared with 11 for the nondiversified companies, which reflects the growing appreciation of the advantage they have in bad years.

The advantage is becoming more significant because the return on net worth of the FORTUNE 500 has been falling for the past four years. Even in 1983, a good year, [illegible]0 of the 500 industrials lost money. With severe foreign competition, heavy industry faces a difficult future in this country. But if you are diversified it won't kill you if you have a business that's not doing too well, and you can even get right out of an industry that looks bad. Of the 60 FORTUNE 500 money losers last year, only four were conglomerates. As things get tougher the conglomerates will look better.

Safety in recession years is only one reason for diversifying. Others include getting out of a low-growth or low-return industry, or expanding without violating the antitrust laws. Most manufacturing companies are diversified to some extent, even if they can't be classified as conglomerates. Only a few top high-technology companies—IBM, Wang, Hewlett-Packard—have not diversified. They have all the growth they need and their return on capital is excellent.

The key to running a conglomerate well is to give the division managers the authority to run their own shows—but to make sure they are motivated. You must have people who are competent in their businesses, and you don't want to restrict them too much, except for approval from the board of directors for things like capital expenditures. In Textron we gave the division managers tremendous latitude, but we put some pressure on

RESEARCH ASSOCIATE *Lorraine Carson*



Strength in Diversity

Measured by their return on stockholders' equity, the largest conglomerates on the FORTUNE 500 have been outperforming the largest nondiversified companies. The conglomerates trailed in 1978 and 1979, but have held up much better in recent years.

them every month by ranking them in order of performance. So a division manager was No. 1, No. 2, or No. 10. That was a clear incentive. We also gave them a carrot. The managers could earn cash bonuses of up to 100% of their salaries, depending on the return on capital they achieved.

My reason for diversifying was to break out of a low-return industry. I had been carrying around the idea of creating a diversified company for a long, long time. In 1923 I had set up my own company in South Boston, Special Yarns Corp., which eventually became Textron. A couple of years later Eliot Farley, who was my former boss and had helped me set up the company, said to me, "Royal, some day you ought to consider getting diversified and I've even got the name. You should call it Disassociated Industries." I thought he was crazy. Thirty years later, when I was 57, I finally got smart.

TEXTRON REMAINED very small until World War II. During the 1930s we just battled to keep from going broke all the time. After the war we found ourselves in a highly cyclical business with a low return on capital. Most Southern textile mills were controlled by families and were producing greige goods—unfinished, undyed fabric—in a highly competitive market. When profits were high, the last thing the owners wanted was to pay out a lot of dividends on which they would pay 70% taxes, which was the top bracket then. But any accumulation of surplus earnings deemed by the government "unreasonable" made the companies subject to a 38.5% penalty tax. So what did the mass producers do? They poured money into new mills that weren't needed and turned out cotton fabrics the market couldn't absorb except at much lower prices. That's how the tax laws helped make the textile industry unattractive to the investor. And it's typical of single-industry companies to overexpand in boom times.

Suspicion about conglomerates is nothing new—I ran into it when I started diversifying. We held a special stockholders' meeting on June 30, 1952, to change the articles of association so we could buy businesses outside textiles. The stockholders approved and the board was enthusiastic. Unfortunately no one else was. The entire financial community thought I was crazy.

I found that out when we tried to finance our first deal in 1953. We wanted to buy the Burkart Manufacturing Co. It had started out making horse blankets in St. Louis and graduated to auto seat stuffing. I needed several million dollars to buy the company. When I approached Roger Damon, president of the First National Bank of Boston, he said,

ILLUSTRATIONS BY KARL HARTIG

"Roy, your idea of unrelated diversification just won't work. No one person can possibly run 30 different businesses. However, we are going to support you on this one acquisition, hoping you will abandon the whole concept in the future." We raised the working capital by borrowing on all of Textron's receivables, and our profit-sharing plan bought the fixed assets and leased them to us.

We acquired two other companies early in 1954, Dalmo Victor and MB Manufacturing, and then we ran out of money. At that point we could have remained a struggling textile company with three small nontextile divisions. But we were able to secure loans to buy a position in American Woolen Co., and after a year-long court battle—during which we proved that American Woolen's management had used 75,000 forged proxies—we won control. That gave us $75 million in working capital and a $30-million tax loss carry-forward. By the time I retired in 1961 we had bought around 100 companies, mostly small and often family-owned.

YOU HAD TO FIND companies that had the potential, even if they were very small, to increase earnings either by growing or by reducing costs. When we bought a chainsaw company called Homelite Corp. in 1955, it was tiny compared with its competitor, McCulloch Corp. But we knew McCulloch had a high-cost operation beside the Los Angeles airport. So we moved Homelite out of unionized New England and built beautiful new plants down South, and we beat McCulloch with lower costs. Since I am interested in golf, we bought the E-Z-Go Golf Cart Co. in 1960 when it was doing about $1 million in sales. We expanded its low-cost operation in Augusta, Georgia, and we put Cushman Co. right out of the golf-cart business. Homelite and E-Z-Go's sales, along with those of two small metal fastener companies we acquired in the 1950s, Townsend Co. and Camcar Manufacturing Co., are now more than ten times what they were when we bought them.

To get into defense contracting, we acquired three divisions of the Bell Aircraft Corp. in 1960, when their sales were only $100 million a year. Now their sales are way over $1 billion a year. Of course, we had a lot of disasters too, but none big enough to hurt us seriously. I wrote a book about them, *How to Lose $100 Million and Other Valuable Advice*, adapted for FORTUNE in the August 27, 1979, issue. It was the first book by a businessman pointing out all his mistakes.

My goal at Textron was to increase the re-

CONGLOMERATE 1983 SALES in millions	**RETURN ON STOCKHOLDERS' EQUITY, 1978-83**		
	MEDIAN	**HIGH**	**LOW**
Teledyne $2,979	**24.4%**	**29.2%** 1979	**11.5%** 1983
Minnesota Mining & Manufacturing $7,039	**20.1%**	**22.2%** 1979	**17.8%** 1982
Chesebrough-Pond's $1,685	**19.8%**	**20.0%** 1982	**17.8%** 1978
Litton Industries $4,719	**19.6%**	**24.9%** 1980	**Loss** 1978
American Standard $2,182	**19.3%**	**24.7%** 1980	**5.8%** 1982
Emerson Electric $3,475	**19.3%**	**19.7%** 1981	**17.8%** 1983
Northwest Industries $1,976	**19.2%**	**41.1%** 1981	**Loss** 1983
Lear Siegler $1,464	**18.6%**	**20.9%** 1979	**13.3%** 1983
Marmon Group $1,467	**18.6%**	**25.1%** 1979	**10.6%** 1983
General Electric $26,797	**18.3%**	**19.1%** 1979	**17.8%** 1982
Gillette $2,183	**17.3%**	**19.3%** 1983	**16.1%** 1978
Emhart $1,686	**16.5%**	**18.2%** 1978	**12.9%** 1979
TRW $5,493	**16.3%**	**16.9%** '78-'79	**12.7%** 1983
Parker Hannifin $1,038	**16.0%**	**17.5%** 1979	**6.5%** 1983
Perkin-Elmer $1,015	**16.0%**	**17.9%** 1980	**9.8%** 1983
Rockwell International $8,098	**16.0%**	**17.0%** 1979	**13.0%** 1978
Dresser Industries $3,473	**15.9%**	**16.6%** 1978	**0.3%** 1983
Tenneco $14,353	**15.6%**	**17.4%** 1980	**12.3%** 1983
Colt Industries $1,576	**15.2%**	**21.3%** 1983	**Loss** 1982
Ogden $1,918	**14.6%**	**15.5%** 1978	**10.8%** 1982
W.R. Grace $6,220	**14.4%**	**17.5%** 1981	**7.3%** 1983
United Technologies $14,669	**13.9%**	**15.3%** 1982	**13.0%** 1979
Honeywell $5,753	**13.6%**	**15.9%** 1979	**10.0%** 1983
Gulf & Western $5,072	**13.2%**	**15.3%** 1980	**Loss** 1983
Borg-Warner $3,542	**13.1%**	**14.4%** 1979	**10.9%** 1980
Brunswick $1,216	**13.0%**	**52.8%** 1982	**5.3%** 1980
Kidde $2,330	**13.0%**	**14.6%** 1979	**Loss** 1983
Signal Companies $6,151	**12.9%**	**17.2%** 1979	**3.9%** 1983
North American Philips $3,800	**12.6%**	**14.3%** 1979	**9.4%** 1982
FMC $3,498	**11.6%**	**13.4%** 1978	**10.8%** 1981
ITT $14,155	**11.3%**	**14.3%** 1980	**6.8%** 1979
SCM $1,813	**10.8%**	**11.8%** 1980	**4.8%** 1983
National Distillers & Chemical $2,267	**10.7%**	**14.9%** 1979	**6.8%** 1983
Crane $1,003	**10.6%**	**14.8%** 1979	**Loss** '82-'83
Textron $2,980	**10.0%**	**16.5%** 1978	**6.9%** 1982
American Can $3,346	**9.5%**	**12.0%** 1979	**Loss** 1982
IC Industries $3,864	**8.8%**	**14.4%** 1979	**4.2%** 1982
U.S. Industries $1,076	**8.2%**	**9.7%** 1979	**Loss** 1981
Williams Companies $2,167	**7.0%**	**14.4%** 1980	**1.8%** 1978

A Compendium of Conglomerates

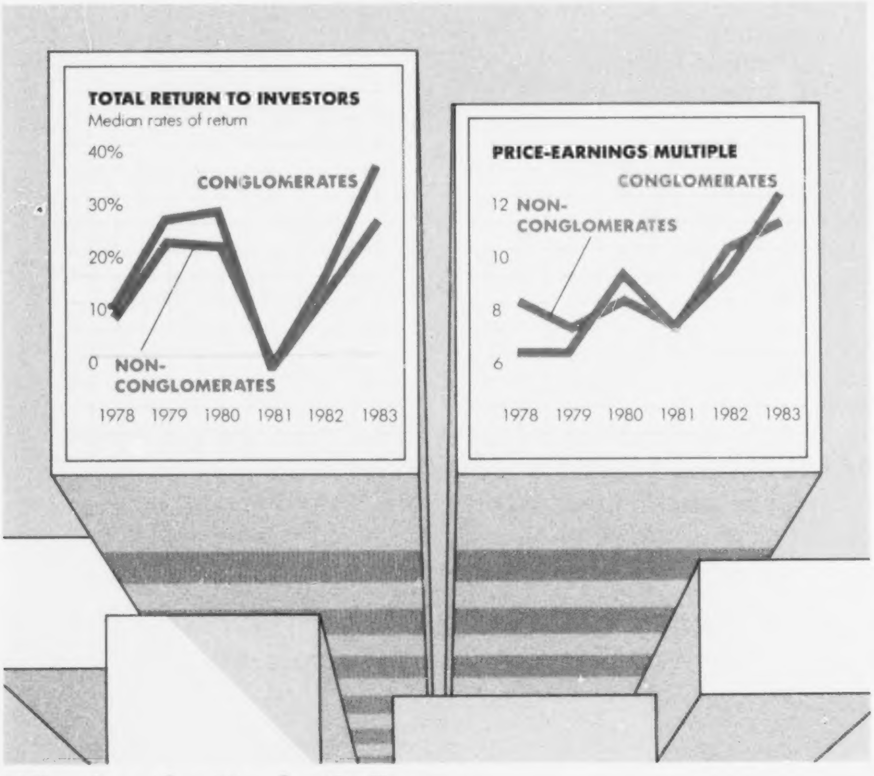
Who's hot and who's not among conglomerates is illustrated by the 39 listed above, chosen from the 295 FORTUNE 500 industrial companies with $1 billion or more in 1983 sales. FORTUNE defines conglomerates as companies engaged in at least four different businesses, none accounting for more than 50% of sales—which eliminates some, like Raytheon, often considered conglomerates. Also excluded are co-ops and companies that weren't on the 500 list all six years.

turn on average common stockholders' equity from 5% or 6% annually, the usual rate when it was just a textile company, to 20%. The company met that goal in 1967. Unfortunately the return at Textron has slipped back down to 7.1%. It has bought no large manufacturing business in the last ten years. Sales grew only from $1.9 billion to $3 billion in the last ten years, while other conglomerates that used to be smaller than Textron have left it behind. United Technologies, which was about the same size as Textron ten years ago, is up to nearly $15 billion in sales.

While Textron diversified to escape the low returns, other companies did so to break out of businesses with limited growth potential. The Emerson Electric Co. is an outstanding example. When Wallace "Buck" Persons took over in 1956, Emerson was a little company making small electric motors. Persons made unusually astute acquisitions and monitored the divisions closely. He would have the top managers in to a meeting once a month and go over things in detail to put pressure on them. But his greatest feat was to establish good relations with the financial community. Unlike other executives, he spent a lot of time talking to people in the investment business and he got their confidence. As a result, Emerson's price-earnings multiple was around 30 for many years.

The unusually high ratio permitted Persons to buy some fine companies using stock instead of cash, while most of Textron's acquisitions had to be made with cash because we had a lower multiple. He could afford to pay 15 times earnings for a company. Charles F. Knight took over from Persons in 1974 and has maintained a record I don't think any other conglomerate can match: Emerson has raised its total earnings and earnings per share every year since Persons took over 26 years ago.

Minnesota Mining & Manufacturing started out mining fluorspar and using it to make sandpaper. You couldn't get much less scope than that. I'm told there was a time in the taverns of northern Minnesota when you could buy two shares of 3M for a shot of whiskey. William McKnight, who led the company from 1929 to 1966, believed in research and development, and much of 3M's diversification was achieved by creating new products instead of acquiring other companies. The company has never paid a big dividend, but the dividends have increased for 26 consecutive years and have always kept ahead of inflation. For a decade sales have grown faster than the FORTUNE 500's sales. Even in 1982 3M's sales gained.



Winning the Market's Favor

Measured by total return to investors—dividends plus stock price appreciation—conglomerates did better than nondiversified companies except in 1981, when investors in both types took baths (chart at left). As the market awakened to the conglomerates' performance in 1979, the conglomerate discount disappeared (right). The price-earnings multiples were measured at year's end.

At Textron we took advantage of tax loss carry-forwards, but for some companies these were the main reason for conglomerating. The railroads built up tax losses they couldn't use unless they diversified. Ben Heineman, who became chief executive of the Chicago & North Western Railroad in 1956, diversified successfully during the 1970s after changing the name to Northwest Industries, and used up the railroad's huge carry-forwards. He got rid of the railroad by selling it to the employees. The Illinois Central diversified as IC Industries but hung on to the railroad, so its median return on net worth in the last six years was only 8.8%, compared with 19.2% for Northwest Industries. But if IC had remained just a railroad, it would still probably be making nothing but tax loss carry-forwards.

SOME COMPANIES diversify to get into lucrative defense businesses—Textron, fortuitously, bought the Bell units just before the Army decided to equip all its divisions with helicopters—but other companies worry when too much of their profit comes from defense contracts, which can be unreliable. United Technologies got to be too dependent on Pentagon contracts. Harry Gray has done a terrific job of diversifying the company, especially with the purchase of Otis Elevator and Carrier Corp. in the late 1970s. He was the first businessman to make unfriendly tender offers relatively respectable among lenders. Many banks wouldn't touch an unfriendly offer before he started making them in 1976, but Gray was a pretty important customer.

The idea of diversifying is so appealing that some companies were created just to be conglomerates. Teledyne is one of those, and from the point of view of the stockholder, it is probably the best of the diversified companies. Like many successful conglomerates, Teledyne is the creation of one strong man. Henry Singleton left Litton Industries in 1960 to start it, and he remains the chief executive to this day. He made many unrelated acquisitions, just as I did, but he made fewer mistakes.

continued

Some of Singleton's policies were considered pretty unorthodox in the investment community. Teledyne has never paid a cash dividend, for example. Singleton purchased large positions in several major corporations. A $49.1-million write-down of its International Harvester shares hurt Teledyne's stock in 1982, but other investments paid off, especially Singleton's purchase of a 25% interest in Litton Industries at an average price of $12.50 between 1975 and 1978. Litton shares traded for $68 late in April.

No other company I know of has ever bought in such a large percentage of its own shares and stayed public. The company has reduced its outstanding shares to 20.4 million from a peak of 89 million in 1971 (adjusted for subsequent splits and stock dividends). Anyone who has held Teledyne stock since the initial $1.9-million offering in 1960 has seen the investment increase by over 14,000%. That's better than 24% compounded annually.

Conglomerates were so successful in the 1960s that inevitably the whole thing got out of hand. Their managers found they could increase earnings per share just by making acquisitions, so long as their companies had higher multiples than the companies they acquired. An acquiring company would be buying earnings cheap and adding them to its own, and the market would almost invariably bid up its shares to reflect those added earnings. While Emerson Electric used this ploy wisely, other conglomerates started buying anything that came along. The break came in 1968, when investors began to understand how poor the quality of those earnings was.

Litton has symbolized the rise, fall, and revival of the conglomerate. When I bought Dalmo Victor in San Carlos, California, in 1954, I was told I should also buy a little company across the street called Electro-Dynamics Corp., which subsequently became Litton Industries. It was very limited in scope but highly profitable. Roy Ash and Tex Thornton took the company over and diversified into at least 20 different businesses. Litton's multiple got as high as 47. In the early 1960s it made the mistake of taking on two big companies that really had problems, Ingalls Shipbuilding in Pascagoula, Mississippi, and Royal McBee, the typewriter company. The problems finally caught up with the company in 1968, and Litton announced a decline in quarterly earnings for the first time in its 14 years. The shares went into a long decline, from $120.375 in 1968 to $2.875 in 1974. It took a long time to straighten out those companies but today Litton is once again a top performer in median return on stockholders' equity, ranking fourth among conglomerates over the past six years.

JIMMY LING built LTV up from nothing, but he got into real trouble when he sold the public 20% of his subsidiaries and then borrowed heavily on the remaining 80% of the overpriced shares. He bought the Jones & Laughlin Steel Co. with that money. But in 1969 LTV's earnings declined, and the price of the subsidiaries' stock came tumbling down. He was caught with too much debt, and that was the end of Jimmy Ling at LTV.

The spinoff trend started in 1972. The conglomerates had bought too many small companies, and they began selling the ones with the least growth potential to put more capital into the most promising divisions. That trend has slowed down now. By 1972, of course, I was out of Textron, but I was running Narragansett Capital Corp., a Small Business Investment Company, and we were able to pick up dozens of divested cash cows that weren't growing. We used leveraged buyouts, which enabled us to give the managers a piece of the action. So in a way I had the best of both conglomerate cycles—when they were diversifying in the 1950s and 1960s and when they were selling off in the 1970s.

Diversifying is as desirable today as ever, but a lot harder. When I was building up Textron 30 years ago, you could buy a company at eight times its annual earnings. Today you may have to pay 15 times earnings. I couldn't create a Textron today and make a decent return, nor could anybody else.

But for those who have already created a conglomerate, or anyone who can figure out how to do it without acquisitions today—say, by creating new products through research and development—my basic concept of unrelated diversification is as sound as ever. The bad reputation the conglomerates acquired in the late 1960s and early 1970s just doesn't square with the facts today. I would like to see FORTUNE start comparing the performance of conglomerates and nondiversified companies every year. A well-run diversified company shouldn't ever lose money. I may be sticking my neck out, but I think very few of the 39 examined for this article will lose money in the future. ■

ROYAL LITTLE JUST KEEPS ON CLIMBING

■ Royal Little played his first game of golf in 1911. This year, at the age of 88, he expects to play in at least eight senior tournaments, and with a little luck he'll score better than his age in one of them. He has shot his age 25 times since he turned 83. As long as he can get a caddy, he never rides around the course in those carts made by Textron. "Gotta keep in shape," he says. His trim figure is a little bent now, but in shape he is. When he is at his office in Providence, Rhode Island, he walks up a steep hill every day to the Hope Club for his customary fruit salad lunch.

After he retired from Textron, Little—who was elected to FORTUNE's U.S. Business Hall of Fame in 1975—ran Narragansett Capital Corp., a Small Business Investment Company, and Amtel Inc., a conglomerate. These days he works as a merger and acquisitions consultant with his old friend Jim Robison, the former chief of Indian Head Corp., at a company called Lonsdale Enterprises. He is as eager as ever to jump in a jet and try to make a leveraged buyout that will earn a $1-million commission.

KEVIN GALVIN—PICTURE GROUP

Staying in shape *at 88*

JUNE 11, 1984

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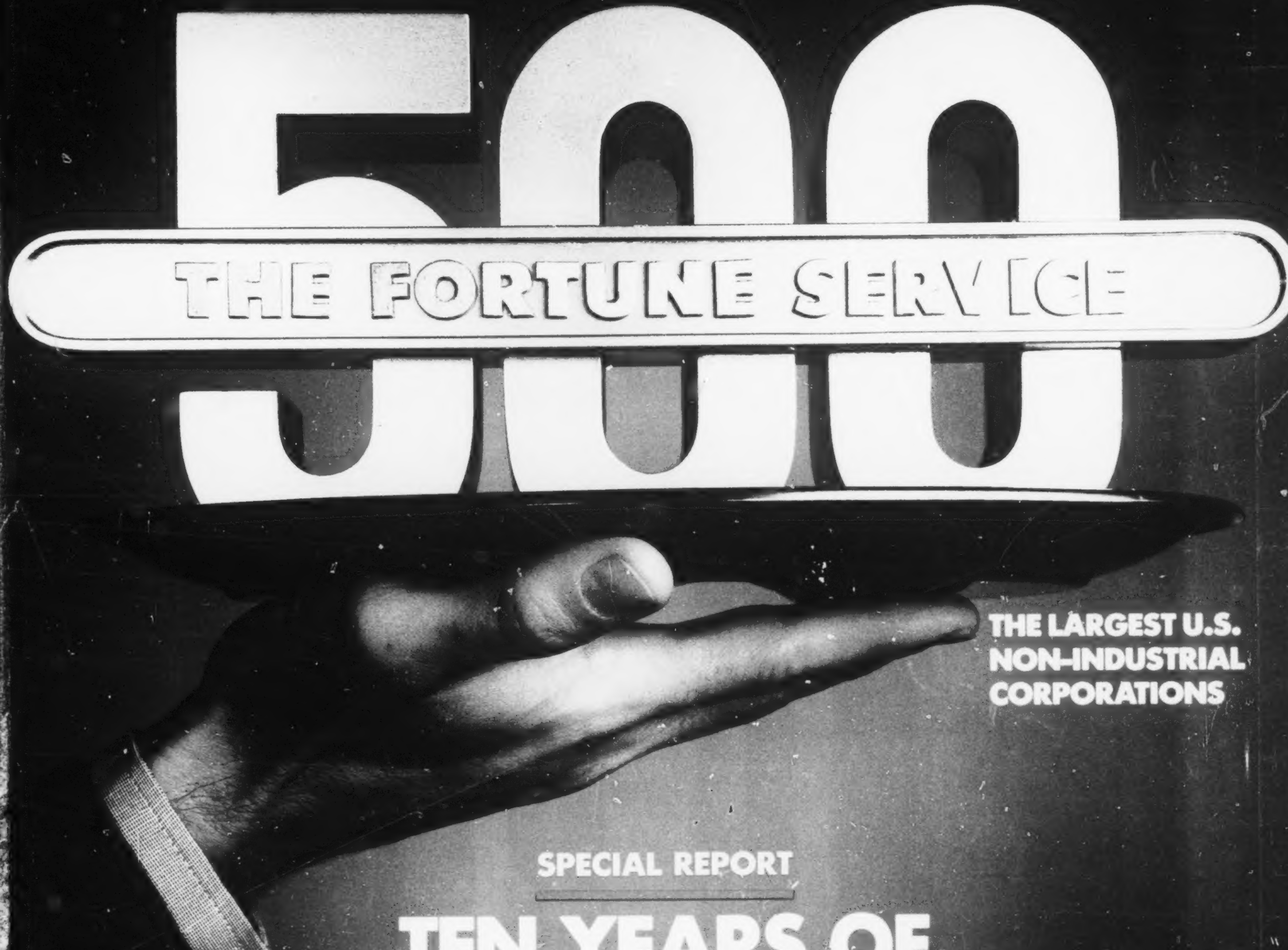
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THE LARGEST U.S.
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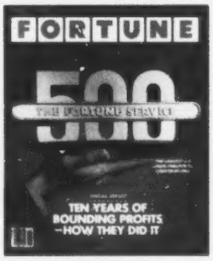
SPECIAL REPORT

TEN YEARS OF BOUNDING PROFITS —HOW THEY DID IT



Photographed by Carl Zapp, Nicholas Fasciano's construction symbolizes the economy's perkiest sector over the last decade—those companies that make their money by serving. A special report on the FORTUNE *Service 500 is on page 107.*

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HOW THE SERVICE STARS MANAGED TO SPARKLE

A dozen companies from the Service 500 lists rang up superlative returns on shareholders' equity over the last ten years. Some of them needed leverage to do it, some had bankrolls too big, and the group's superstar got a special lift from inflation. ■ *by Carol J. Loomis*

THE STRONG PROFIT performance that the Service 500 put together over the last ten years was led by a dozen companies with extraordinary results. They are a microcosm of many of the important trends of the time: discount stores, fast-food restaurants, burgeoning activity in the financial markets, the computerization of America. They also display some common characteristics. Most have stuck to what they know. Many are highly cost-conscious and disdainful of bureaucracy. At least a few found ways to capitalize on inflation.

They set themselves apart by earning very high returns on stockholders' equity and by meeting a specific test that FORTUNE devised: to gain stardom, a company had to have averaged at least a 20% return on equity over the 1974-83 decade and to have never dipped below 15%. Return on equity is a gets-to-the-heart-of-it measure of how ably a management is using the shareholders' money. Returns of 20% or better are fiendishly difficult to achieve. They are still harder to sustain, since they must be earned on ever increasing amounts of equity, built up as profits are retained and put to use. A company that produces a long-run 20% return for its shareholders is, in effect, endowing them with a 20% savings account that continually grows.

When FORTUNE looked for companies among the 500 Industrials that met the 20% test it found just 13 (April 30). The rigor of the test is reconfirmed by the Service 500 results, with only 12 of its members measuring up.

All of which makes the most profitable company among that dozen, ServiceMaster Industries, a marvel, since it managed to average 30.1% in the 1974-83 period. That record also gives it top ranking among all 1,000 companies. The industrial superstar it beat out was American Home Products, whose average was 29.5%.

ServiceMaster's business is sizable—it will have revenues this year of more than $800 million—but is so unusual that even its executives have trouble framing a short, sweet description of what the company does. It does supply services, but that isn't too informative. Think of it instead as all-around handyman for corporations, educational institutions, and particularly hospitals. For its hospital customers, ServiceMaster stops short of playing doctor and nurse, but otherwise spreads itself wide, doing housekeeping and laundry, maintaining equipment, ordering medical supplies, preparing food.

Besides ServiceMaster, five other companies from the diversified service list are among the stars. All provide one kind of service or another to governments, institutions, and businesses, but are otherwise variegated. Super Valu Stores is primarily a wholesaler to grocers (though it also runs food and general merchandise chains of its own). Parsons is an engineering and construction company, handling mostly megabucks projects. Phibro-Salomon is in the megabucks business also, heading the diversified service list with $30 billion in 1983 revenues. Most of the revenues are generated by the commodities trading part of the business, Philipp Brothers; more than half the profits have been coming from the Wall Street part, Salomon Brothers.

Dun & Bradstreet is, of course, the king of credit information; other well-known brand names in its bag include Moody's Investors Service, *Official Airline Guides*, and Reuben H. Donnelley (telephone directory advertising). Electronic Data Systems, which supplies computer services, has Ross Perot at its head. In a burst of modesty and exaggeration, he depicts EDS as just sort of sitting there, virtually starved for work, when along came the computerization of the world. Elegant returns on equity followed. "You can't farm," says Perot, "without rain."

The other service list with a constellation of stars was retailing, which placed five companies. One is the leading fast-fooder, McDonald's. The other four retailers, to one degree or another, are discounters. That figures, says a retailer: "People used to brag about where they bought things. Now they brag about how little they paid."

In what they sell, those four retailers just about span the industry. The grocer among them is Lucky Stores, a California-based chain that long ago dropped promotional come-ons and settled down to day-in, day-out low prices. Wal-Mart Stores is the retailing success of the decade, a discount general merchandiser operating mainly in the South and Midwest. Service Merchandise dis-

RESEARCH ASSOCIATE *John Paul Newport Jr.*

PHOTOGRAPHS BY WILLIAM COUPON

Kenneth T. Wessner, C. William Pollard, and Kenneth N. Hansen

SERVICEMASTER INDUSTRIES

■ *The most profitable company among the Service 500 over the last ten years—indeed, the jewel among all 1,000 companies in the service and industrial lists combined—was ServiceMaster. Its return on stockholders' equity averaged an exotic 30.1%. ServiceMaster is in the mundane business of providing housekeeping and other factotum services to hospitals, schools, and corporations. It was headed in the ten years by Hansen, 66 (right), Wessner, 62 (left), and Pollard, 46, the incumbent.*

H. Ross Perot

ELECTRONIC DATA SYSTEMS

■ *Not all service businesses have been good to Perot, 53: he got creamed financially running the brokerage firm DuPont Glore Forgan a decade ago. But EDS has been on the march, picking up major government contracts and gaining in profitability. Perot's salary has not kept up with inflation: it was $63,000 in 1968, when EDS went public, and it's still that. Compensating factor: Perot and a family trust own 46% of EDS stock, recently worth about $770 million.*

counts hard goods and jewelry through catalogue showrooms; the catalogues do the advertising, the showrooms the distributing. Melville runs ten chains that sell apparel, toys, linens, and drugs, and price their goods all sorts of ways. Melville's drug chain, CVS, is a discounter; Melville's biggest chain, apparel seller Marshalls, is "off price" (featuring bargains picked up from manufacturers); the chain that launched Melville, shoe seller Thom McAn, prices traditionally.

The 12th star is a commercial banker, Allied Bancshares of Houston. It got where it is partly by *avoiding* a trend: international loans. Allied has none at all, nor is its customer list tilted toward major corporations. Instead, it mainly plies the so-called middle market, defined by Allied as corporations with sales of $100 million or less. Allied particularly courts the $50-million-and-down set. The really big banks, says President Gerald H. Smith, flub that market.

That's the dozen—and it very noticeably does not include representatives from several industries in FORTUNE's Service 500. The absence of life insurance companies among the stars deserves a special explanation. Comparing two different kinds of insurers on its list of the 50 largest—mutuals and stock companies—FORTUNE uses financial data taken from the companies' "statutory" reports to insurance regulators. These do not impart data suitable for figuring a return on equity, so the life insurance companies were not entrants in the race for stardom.

By other measurements, however, some life companies clearly outclassed others between 1974 and 1983. Stardom is perhaps most deserved by Nationwide Life, which on a list that changes very little year to year managed to go from a ranking of 45th in assets in 1974 to 21st in 1983. The company's contribution to jingledom no doubt helped to propel its rise: "Nationwide is on your side."

For all the other service lists that FORTUNE compiles, return-on-equity figures do exist, and those lists that didn't produce any stars just didn't. A strikeout on the utilities list isn't surprising. Every company on the list gets at least 50% of its revenues from utility businesses whose rates are regulated, and in that ballpark the umpires don't hand out 20% returns. The best record during the decade was compiled by Sonat, which pulled an average 16.5% return out of businesses that include a regulated natural gas pipeline, offshore drilling, and (until the business was recently sold) forest products.

On the list of the 50 largest transportation companies, the profitability leader was Emery Air Freight, which averaged a splendid 28.4% return on equity. But Emery sank to 13.5% in the recession year of 1982, and that kept it out of FORTUNE's assembly of stars.

Among the 100 largest diversified financial companies, American International Group put together the best, most consistent performance, averaging 19.5% and never sinking below 15%. An insurer, AIG draws much of its strength from a huge business overseas, where its reputation as an expert has let it escape the commodity-type pricing that is weighing down the U.S. insurance markets.

MANY of the 12 companies that qualified as service stars got there through the use of debt—and that is a departure from the route taken by the industrial stars. Borrowed money "leverages" stockholders' equity, adding risk to the business but also increasing the potential for return. With a couple of exceptions, the industrial stars just didn't need the boost. Most, in fact, generate more cash than they know what to do with. More than half the service stars, on the other hand, know the debt markets well.

By the nature of their business, financial companies operate with thin equity. So the big borrowers among the service stars include Allied Bancshares and Phibro-Salomon. Other patrons of debt are Super Valu and four retailers, Lucky Stores, Wal-Mart, Service Merchandise, and McDonald's. All recently had debt that was 35% to 42% of total capitalization. They have needed the leverage, they say, to cover inflating costs and to keep growth going besides. The fifth retailer, Melville, has grown handily also, but by design has held debt down. It was recently about 15% of capitalization. "We're kind of conservative from a balance sheet standpoint," says Melville's chairman, Francis C. Rooney Jr. The advantage of that, of course, is peace of mind, while the debtor's advantage, in inflationary times, is the ability to repay in cheapening dollars.

ServiceMaster is a service star without a penny of debt. To operate, the company requires very little capital, just a lot of labor and effective management. So ServiceMaster keeps capital from flooding the place by simply paying out most of its earnings to shareholders. Last year profits were $26 million, dividends $18 million. On the side, the company got some extra money to the stockholders by buying in $4 million of its stock.

Significantly, the name of the company carries a double meaning: Master of Service

COMPANY	RETURN ON EQUITY 1974–83		
	AVERAGE	BEST YEAR	WORST YEAR
ServiceMaster Industries	**30.1%**	**43.7%** 1983	**18.9%** 1974
Parsons	**24.6%**	**30.0%** 1976	**18.4%** 1974
Dun & Bradstreet	**24.3%**	**28.8%** 1983	**19.3%** 1975
Wal-Mart Stores	**23.6%**	**26.5%** 1983	**17.2%** 1974
Phibro-Salomon	**23.1%**	**33.4%** 1980	**17.9%** 1977
Melville	**22.0%**	**24.4%** 1978	**15.5%** 1974
Service Merchandise	**21.6%**	**30.4%** 1975	**15.4%** 1982
Super Valu Stores	**21.1%**	**24.2%** 1978	**16.1%** 1974
Electronic Data Systems	**20.6%**	**23.4%** 1981	**17.9%** 1976
Lucky Stores	**20.5%**	**24.2%** 1979	**17.5%** 1982
Allied Bancshares	**20.2%**	**23.4%** 1981	**17.7%** 1976
McDonald's	**20.2%**	**21.3%** 1977	**19.3%** 1981

A Dozen Very Good Eggs

To make this select list, a company had to be on this year's Service 500 lists, to have averaged at least a 20% return on year-end stockholders' equity over the 1974-83 decade, and to have never dropped below 15%. Not considered as contenders, though they are on the Service 500 lists, were subsidiaries of other corporations, such as pipelines owned by oil companies. ServiceMaster, D&B, and Wal-Mart all grew more profitable as the decade wore on, each earning its highest return in 1983.

Gerald H. Smith

ALLIED BANCSHARES

■ *Organized in 1971 by three Houston businessmen, including Smith, now 53, Allied made itself a lender to middle-size companies, bought up banks in East Texas, and for many years rode the state's booming economy. But Allied's lead bank took major write-offs on energy loans last year and the parent company suffered a cut in its bond rating. Trying to build now for better times, Smith has hired 100 more loan officers, many of them refugees from nearby banks.*

and Service to the Master. Founded by a devout Baptist, the late Marion E. Wade, the company has always described itself as driven by religious principles. The first of its corporate objectives is "to honor God in all we do." Each annual report contains that message and a biblical passage (1982: "Show me the path where I should go, O Lord; point out the right road for me to walk," Psalms 25:4). The cafeteria wall at ServiceMaster's suburban Chicago headquarters proclaims that "Joy cometh in the morning" and though there are no "Cleanliness is next to Godliness" signs around, the neatness and shine of the offices project the thought. A cab driver who often takes ServiceMaster executives to and from airports says he occasionally hears a four-letter word but that basically the crowd conforms to its principles: "There's nothing sneaky about them; everybody's honest; nobody lies."

The quality of mercy is not evident in the company's pricing. Mindful of its fourth and last corporate objective—"to grow profitably"—ServiceMaster employs a standard contract that, in effect, allows it to benefit from inflation. Imagine a $1-million contract covering services for a large hospital, on which ServiceMaster might contemplate a $60,000 pretax profit. The contract will require the company to cover all expenses of providing the service. Mainly these will be wages. But most of the workers on the payroll (not including managers ServiceMaster assigns to the job) technically remain employees of the hospital. As such they share in hospital-wide wage increases.

WHEN THESE occur, the $1-million contract price rises—in its entirety, not just in its wage component—by the percentage amount of the employees' wage increase. Say that's 10%; the contract price increases by $100,000, of which perhaps only $70,000 will be going for higher wages. The remaining $30,000 will be ServiceMaster's to do with what it can. It will surely have to absorb some inflationary cost increases of its own. But its record of rising profit margins (up from 2.6% of sales in 1974 to 3.7% last year) suggests that it has been bundling a good part of such $30,000 increments into its profits. The system, says an envious businessman, "would surely make you wish to see those poor, downtrodden hospital employees go up and up in pay."

Why do hospitals sign such contracts? Many don't—it's a make-or-buy decision and ServiceMaster identifies its main competition as hospitals that choose to do it themselves. But a ServiceMaster survey once found that the jobs hospital administrators most dislike are housekeeping and laundry. Nor, wryly says C. William Pollard, ServiceMaster's president, do these jobs always draw the best management talent in the house. Lauding ServiceMaster's own efficiency, Pollard says the company *knows* it can do the job better than the hospital can itself and usually at the same or lower cost. More than 1,000 U.S. hospitals (out of 7,000) have bought that proposition, signing up with ServiceMaster for one or more services.

Another company that clearly got a lift from inflation during the last ten years was Phibro-Salomon. Through most of the period, the Phibro operation (first as a part of Engelhard Minerals & Chemicals and later spun off on its own) earned handsome returns from commodities, particularly the inflation ringleader, oil. Just about the time the oil business drooped, Phibro bought Salomon Brothers, which had itself flourished as rising federal deficits and volatile interest rates boosted trading volume in the financial markets. True, the boom brought new competition into fixed-income trading, and margins shrank. But they didn't shrink as much as volume expanded. On the whole, says John H. Gutfreund, 54, head of Salomon (and co-chief executive, with David Tendler, 46, of Phibro-Salomon), the firm emerged a winner.

Then there is McDonald's, which has profited from inflation as a landlord. The company owns or leases its restaurants (much preferring to own) and then charges its franchisees a fee that includes occupancy costs. The fee is a percentage of the franchisee's revenues—in today's contracts, 11.5%. So as restaurant prices inflate, so do the corporation's revenues. Meanwhile it has locked in many of its real estate costs. Much of McDonald's debt (42% of total capi-

Raymond Zimmerman

SERVICE MERCHANDISE

■ *Zimmerman's father, Harry, founded Service Merchandise and is still honorary chairman; his mother, Mary, was corporate secretary; Raymond, now 51, built it into a 158-store catalogue showroom company, the industry's second largest. Thanksgiving-to-Christmas sales make the year, jewelry makes most of the profits, and a new automated order taker, "Silent Sam," is charming customers. But with the showroom business crowded, Zimmerman is expanding into home improvement stores.*

Francis C. Rooney Jr.

MELVILLE

■ *When Rooney, now 62, took over Melville 20 years ago, it was operating only the footwear chain, Thom McAn, and Meldisco shoe departments in K marts. But Rooney and consultant Peter Drucker thought Melville might also be good at running other specialty retailers. It has turned out to be splendid. The ten chains Melville owns today include some sold to it by entrepreneurs who have happily stuck around. Rooney says he gives them "integrated autonomy" and someone to talk to.*

talization) has gone to finance properties and this moneymaking arrangement. Says Chairman Fred L. Turner, 52, bestowing the credit: "If leverage ever built anything, it built the House of McDonald."

McDonald's, like several other stars, seems to have prospered by sticking to its basic business and having a strong sense of what it is. That pattern certainly fits Wal-Mart. Spiraling out from his home base of Bentonville, Arkansas, Sam M. Walton, now 66, put Wal-Mart into small towns (5,000 to 25,000 population) and said, "We sell for less." Still only in 19 states, Wal-Mart appears likely this year to hit a remarkable $6 billion in sales. Says a company executive: "We haven't scratched the surface."

USING a striking phrase, Melville's Rooney says the key to success in retailing is "clarity of offer." In search of that, Melville annually puts each of its division heads through a planning exercise that requires him to address, in writing, some simple but incisive questions about his operation: What is our business? Who is our customer? How does this customer define value? What *should* our business be? That last question, says Rooney, asks the manager "to dream"—to consider what he wants his business to be five years down the road.

Melville, in common with a number of the other service stars, is a decentralized organization run with close, but nonbureaucratic, surveillance from the top. Though it's up to $4 billion in sales, Melville has only 75 people in its suburban New York headquarters. The command force at $5-billion Super Valu, in Minneapolis, includes only 16 corporate officers, one of whom has 18 wholesaling divisions reporting to him. "We're very lean around here," says Chairman Michael W. Wright, 45. Allied Bancshares, which runs 48 banks, has only a handful of officers at the top and, besides, assigns each a sideline selling job. For Chief Executive Smith, that role is trying to get more business from Allied's correspondent banks.

Wal-Mart's headquarters are spartan and the company ever watchful of costs. Last year Sam Walton vowed that he would do a hula on Wall Street in New York if Wal-Mart managed to attain an 8% pretax profit (figuring by a special definition used internally, though not in shareholder reports). Since the company had never before surmounted 7.5%, the prospects for hoofing seemed remote. But profits then took off, scaling 8%, and on a cold day in March, Sam put on his grass skirt and hulaed. The profit experience meanwhile left Wal-Mart thinking that it may be able in the future to avoid the large sales of new stock that it has so far needed to finance its growth. The expectation now is that retained earnings can do the job.

A cost-cutting act of note was carried out a few years back by William E. Leonhard, now 69, chairman of Parsons. In the days when founder Ralph Parsons ran the company, it owned a 190-foot yacht, the *Argo*, used to entertain customers and the press. Immediately after Ralph Parsons died, in 1974, Leonhard put the yacht up for sale. It was bought for $585,000 by a Greek shipowner, John Latsis, who reportedly gave it, complete with its crew of 26, to his daughter as a wedding present. Furthermore, says Leonhard, "We don't have airplanes in this company or limousines or hunting lodges or beach resorts."

What Leonhard does have is a decade behind him of successful contracts, including major projects in the Mideast. Leonhard's current ambition is to sink a lot of Parsons's money into the ownership of municipal sewage plants, as these move from public to private hands. This trend, infelicitously called "privatization," is for the moment stalled by a congressional debate over what tax rules should apply. If that opportunity doesn't open up for Parsons, Leonhard will have to scratch for other ways to employ capital. "We are a big cash generator," he says, "and we are constantly looking for ways to use our money."

Empathy for that "problem" is certainly in the air at Dun & Bradstreet, which has spent this year pondering how to spend close to $1 billion in spare cash. The money accumulated in part because D&B is so profitable and needs relatively little capital. An additional infusion came from the company's recent sale of Corinthian Broadcasting for $606 million. D&B thought that Corinthian, though a big earner, was not in the mainstream of its

Harrington Drake and Hamilton B. Mitchell

DUN & BRADSTREET

■ *Drake, 64 (left), inherited what looked like a bunch of monopolies upon succeeding Mitchell, now 67, as C.E.O. in 1975. But then TRW began selling credit information, airlines installed computer systems that competed with D&B's* Official Airline Guides, *and D&B's telephone directory business got dicey because of the AT&T breakup. Hustling, D&B has been rapidly computerizing its own data. Says Drake: "Our industry was lying there waiting for the computer age."*

business, which D&B identifies as providing information and services to business. The company also believed that television broadcasters face mounting competition, making the time ripe for sale.

Only now what does D&B do with the money? The question is perplexing because D&B, like every other high-return company, dislikes the prices that good businesses command in the acquisition market. The amounts asked almost inevitably imply poor returns on investment, at least in the early years.

Not to worry, says Harrington Drake, chairman of D&B: the money will be spent carefully. He made his first move in early May, agreeing to buy a British company called Datastream, which supplies computerized information to businesses. That's a fit for D&B. But the economics of the deal illustrates the problem about acquisitions. D&B is paying $101 million for Datastream, which is now earning at an annualized rate of around $3.5 million. That return—about 3.5%—is a far cry from the 28.8% that D&B earned last year on its existing business. The stock market, even so, took the news equably.

The stock market that the service stars had to pick their way through in the 1974-83 decade was quite bizarre. The decade began in the era of the so-called two-tier market, which awarded dizzy valuations to certain highly profitable companies. A few of the service stars got bid up in that frenzy—notably McDonald's, which sold at 8.6 times book value at the end of 1973 and carried a price-earnings multiple of 43. The two-tier market then took off downhill like an avalanche and so did McDonald's valuation. For the 1974-83 decade, the company's shareholders earned a total return (price appreciation plus reinvested dividends) that averaged only 7.2% annually.

S. Donley Ritchey and Wayne H. Fisher
LUCKY STORES

■ *Fisher, 63 (right), chief executive until 1980, and Ritchey, 50, his successor, make the point that highly profitable companies often owe their success to decisions made long ago. Lucky's key strategist, they say, was former C.E.O. Gerald A. Awes, now 70, who in the early 1960s turned the company's food stores into discounters. Today Lucky is highly decentralized with tight controls and timely information systems. Says Ritchey: "Nothing's quite so useless as stale accounting information."*

BUT MOST of the service stars were not idolized at the decade's start. The median company among them sold at 2.7 times book and 16 times earnings. That's not cheap, but it was low enough to give these big earners a decent start on the decade. As a group, they ended up doing impressively well. The median total return for the 12 was a classy 26.4%. That's almost double the 13.4% median for the 13 industrial stars, many of which, like McDonald's, suffered two-tier fever.

The highest return in either group was the 48.6% recorded by Service Merchandise, a company so unadmired ten years ago that it was selling below book and for three times earnings. The company then rode the boom in catalogue showrooms, making itself the No. 2 company in the field (after Best Products). Even stars can wane, however, and in the last few years Service Merchandise's return on equity has drifted down. The company's stock has recently tumbled, too, falling since mid-1983 by nearly half (to 1.7 times book). Wall Street seems to think the catalogue showroom companies have overbuilt and locked themselves into too many head-to-head battles.

It's a tough world out there and nothing about the next ten years suggests easier times. Suppose FORTUNE, in 1993, were making up another list of companies that had averaged at least a 20% return on equity and had never dropped below 15%. Some of the Service 12 wouldn't likely make it, but at least a few are not short of confidence. Says D&B's Drake: "We'd be on that list." ServiceMaster's Pollard says his company would definitely qualify: "No question about it." Ross Perot attacks the subject, again, with modesty: "The business is going to be there. If we don't get a big share, the cause will be slowness and laziness on our part." The Texas drawl with which he said that was neither slow nor lazy. EDS probably won't be either.

THE SERVICE 500

THE FORTUNE DIRECTORY OF THE LARGEST U.S. NON-INDUSTRIAL CORPORATIONS

The breakup of the Bell System rocked the universe of the largest non-industrial companies last year. But banks and finance companies rebounded from a lackluster 1982, and retailers and transportation companies scored spectacular gains.

LOOKED AT over the long run, the largest U.S. service companies have been stellar performers (see page 154), but last year's record was marred by one monumental event. Had it not been for the breakup of the Bell System, this year's Service 500 would have had a solid earnings increase of 11.6%—in line with the 12.1% increase in total profits racked up by the FORTUNE 500 industrials. A $5.5-billion downward adjustment in AT&T's earnings occasioned by the System's restructuring kept the non-industrial companies' overall gain in earnings down to 0.3%, far behind even a tamed inflation rate of 3.2%, as measured by the consumer price index. Far fewer companies in the group lost money last year than the year before, but the profitable ones made $1.2 billion less than did profitable companies two years ago.

This is the second year of FORTUNE's expanded list of service companies, and surprisingly, each of the seven different industry groups experienced a reversal of what happened to it in 1982. Banks and finance companies rebounded from lackluster performances to achieve group earnings gains that kept well ahead of inflation. The retailing and transportation companies did even better—these two groups made up for a disappointing 1982 with spectacular earnings gains of more than 60%. Utilities and diversified service companies, on the other hand, saw their profits plunge, in contrast to the increases of the year before. Net gains from operations for the top life insurance companies declined last year after rocking along at about the same level through 1981 and 1982.

Investors had an easier time picking winners among the FORTUNE 500 industrials than among the service companies last year, though it was a lively year for the stocks of both groups. For the 391 companies on the service list whose stock was actively traded, median total return to investors, including price appreciation and dividends, was 26.2%. This was below the industrials' median total return of 30.2%, and below the 27.5% median return for last year's Service 500.

Three companies switched from the FORTUNE 500 to the service list this year. They no longer derive more than 50% of their sales from manufacturing and mining, the gauge that FORTUNE uses to determine whether a company is eligible for the industrial or the service lists. Greyhound, the largest of the three, attracted much attention last year because of the 47-day strike at its bus lines. In terms of its place on the lists, though, the more important event was the company's divestiture of Armour Food, which caused Greyhound to move to the 11th spot on the diversified service list. The Grey Dog is now truly diversified, since not one of its divisions—transportation, manufacturing, retail, or finance—represents 50% of its revenues.

The other companies that switched lists, each taking a place among the largest diversified service companies, were Foster Wheeler, No. 36, an industrial engineering and construction firm, and GATX, No. 66, which leases railcars and operates storage facilities. Avco, riding on its defense sales, was the only company to move from the service to the industrial list.

[DIVERSIFIED SERVICE]

Profits were down compared with 1982, and a 1.8% increase in total sales did not even keep up with inflation. The oil-field service industry was the hardest hit, contending with a glut in oil and gas reserves that idled hundreds of drilling rigs. The five oil-field service companies on the list all together saw profits decrease 48.3%. Halliburton stayed No. 4, even though its revenues declined 24.2%. Four oil-field service outfits that were on last year's list dropped off this year because their sales declined so much.

Two industries that had a good 1983 were housing, traditionally the leader in an economic recovery, and health care. Each of the five homebuilders on the list increased its earnings at least 40%. Three of these companies are new to the list this year, including Pulte Home, No. 63, which more than doubled its profits from 1982, and Ryan Homes, No. 89, which quadrupled its earnings. The six health care companies on the list had a total earnings increase of 25%.

COMMERCIAL BANKING

Citicorp put a stop to three years of flip-flopping in which it and BankAmerica exchanged places as the top U.S. bank every year. In 1983 Citicorp left its West Coast rival in the dust, gaining $4.7 billion in assets and 18.9% in earnings, while BankAmerica saw assets drop by $1 billion and profits sag 13.5%. InterFirst had the largest decrease of all the banks—going from healthy profitability in 1982 to a net loss of $172 million last year. A batch of bad energy loans was the source of its woes, which included the largest quarterly loss ever for a U.S. bank.

Overall the top 100 banks increased their assets by 6.3%, while their profits surged ahead 10.3%. Two banks, BankAmerica and Mellon National Corp., No. 13, gobbled up companies that had been among the top 100 banks last year—Seafirst and Girard, respectively. Three of the new names on the list—PNC, No. 27, CoreStates, No. 34, and Sovran, No. 44—are products of mergers involving at least one bank formerly among the top U.S. banks.

DIVERSIFIED FINANCIAL

Twenty new companies joined the diversified financial list this year, nearly all of them savings and loan associations that converted from mutual to stock ownership, such as the fourth-largest stock S&L, CalFed, No. 12. The newcomers to the list helped increase total assets by 24.3%, though they did not contribute much to the earnings increase of 33.8%—nearly half of them lost money.

Other newcomers to the financial list include the Student Loan Marketing Association, No. 19, otherwise known as Sallie Mae, and Fleet Financial Group, No. 31, which was among the top banks last year. Sallie Mae, the nation's primary financial intermediary for student loans, became eligible for the list following its first public stock offerings. With its acquisition of a consumer finance company and a mortgage servicing operation, Fleet Financial can no longer be considered a commercial bank; less than 80% of its assets are in banking. Two notable companies that dropped from the list are Alleghany and Baldwin-United. After selling its Investors Diversified Services subsidiary to American Express, Alleghany was left with only $528 million in assets. Baldwin-United, No. 15 last year, claims to have been too busy satisfying creditors to file a 1983 year-end financial statement with the SEC.

LIFE INSURANCE

Life insurance in force increased 7.7% for the top 50 life insurers, and assets increased 9.9%. But the picture was clouded by a 19.3% decline in net gain from operations—the insurance industry's approximate equivalent of earnings—which scraped to its lowest level since 1977.

One newcomer is National Health & Welfare Mutual, which changed its name to Mutual of America on January 1. Capitol Life, which returned to the list after a year's absence, increased its assets by 53.4%, more than any other life insurer. That didn't help profitability much, though—it was one of five companies with a net loss from operations.

RETAILING

Sales of the top 50 retailing companies rose 10.2% in 1983, but the magic number was in profits, which increased 63.8%—the largest such boost since the forerunner of the present list was started 29 years ago. Sears, still No. 1, had an earnings increase of 55.9% with most of the gain coming from its traditional merchandising business. Woolworth, A&P, Wickes, and Montgomery Ward—the four biggest losers in 1982—all reversed their fortunes, moving back into the black.

Three newcomers made the retail list, including a familiar name from the transportation list. Trans World switched to the retailing group following the spinoff of its airline operations. The core of Trans World's business is now food service, led by Canteen Corp., an operator of corporate cafeterias and stadium concessions.

TRANSPORTATION

Santa Fe's merger with Southern Pacific in December—the biggest deal of the year—propelled the railroad giant to the top of the transportation list. The real kings of the road, however, were the trucking companies. The 11 bulk-freight haulers on the list this year all saw higher profits. The collective gain of 68.3% topped the transportation group's overall gain of 64.8%.

Though the airlines lost a lot less money last year than the year before, they still had a total loss of $131.3 million. Nine companies lost money, three more than in 1982. Pan Am, No. 8, lifted off the ground again, reporting its first improvement since 1980. It lost only $51 million, compared with a $485-million loss the year before.

UTILITIES

This is the last year that AT&T will loom like a colossus over the rest of the utilities list. Next year it will remain at the top of the list, but its commanding position will be humbled while the seven regional holding companies—former pieces of AT&T—jockey for position among the top ten. As of January 1 the assets of AT&T were still about $12 billion more than GTE's, with the seven regionals and Pacific Gas & Electric following close behind, affording a glimpse of what the utilities list may look like next year:

The Top Ten Next Year?

COMPANY	ASSETS IN THOUSANDS
AT&T	$36,008,000*
GTE	$24,222,856
BellSouth	$21,500,000*
NYNEX	$18,479,100
Bell Atlantic	$17,306,300
Ameritech	$16,854,300
Pacific Telesis	$16,800,000
Southwestern Bell	$16,464,000
US West	$15,730,000*
Pacific Gas & Electric	$14,721,533

*Estimate

After 1984 AT&T may even move to another list, either the FORTUNE 500 or the diversified service list, as it expands its manufacturing, research, and marketing divisions.

Though assets and operating revenues of the top 50 utilities were up for 1983, net income fell 25.2%, the first such drop in profits in the history of the list. Blame it on AT&T's income decline of $7 billion, primarily a result of the divestiture. **—Michael Rogers**

THE 100 LARGEST DIVERSIFIED SERVICE COMPANIES RANKED BY SALES

RANK		COMPANY	SALES[1]	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	1	**Phibro-Salomon** (New York)	**29,757,000**	**42,017,000**	1	**470,000**	1	**2,240,000**	2
2	2	**RCA** (New York)	**8,977,300**	**7,656,100**	3	**240,800**	4	**1,981,400**	3
3	5	**City Investing** (New York)	**5,948,000**	**8,361,000**	2	**175,000**	7	**1,556,000**	6
4	4	**Halliburton** (Dallas)	**5,522,178**	**5,833,794**	4	**275,815**	2	**3,571,527**	1
5	3	**Fluor** (Irvine, Calif.)[2]	**5,300,452**	**4,084,920**	5	**27,700**	52	**1,747,249**	4
6	7	**Super Valu Stores** (Eden Prairie, Minn.)[3]	**5,197,081**	**857,671**	48	**68,031**	24	**327,924**	46
7	10	**Fleming Companies** (Oklahoma City)	**4,898,175**	**678,675**	54	**41,710**	43	**262,506**	50
8	6	**Farmland Industries** (Kansas City, Mo.)[5]	**4,688,893**	**1,709,080**	19	**N.A.**[4]		**502,622**	25
9	8	**McKesson** (San Francisco)[6,7]	**4,570,030**	**1,372,812**	23	**56,493**	29	**510,092**	24
10	9	**CBS** (New York)	**4,458,359**	**2,989,842**	7	**187,198**	6	**1,440,461**	7
11	●	**Greyhound** (Phoenix)[8]	**4,061,153**	**1,964,963**	15	**105,499****	16	**1,101,409**	12
12	11	**American Hospital Supply** (Evanston, Ill.)	**3,310,500**	**2,280,000**	11	**211,900**	5	**1,396,800**	9
13	12	**Hospital Corp. of America** (Nashville)	**3,202,988**	**4,083,373**	6	**243,218**	3	**1,570,908**	5
14	14	**American Broadcasting** (New York)	**2,940,137**	**2,090,538**	14	**159,834**	10	**1,214,011**	10
15	17	**Tesoro Petroleum** (San Antonio)[9]	**2,813,755**	**1,003,713**	38	**48,397**	36	**435,298**	33
16	13	**Alco Standard** (Valley Forge, Pa.)[9]	**2,785,938**	**1,059,544**	35	**56,853**	28	**408,952**	36
17	15	**Associated Milk Producers** (San Antonio)	**2,699,730**	**382,649**	72	**N.A.**[4]		**111,356**	81
18	24	**Malone & Hyde** (Memphis)[10]	**2,601,335**	**467,951**	66	**34,014**	51	**187,148**	63
19	21	**Harvest States** (St. Paul)[11, 12]	**2,355,443**	**528,982**	58	**N.A.**[4]		**169,764**	66
20	25	**Ryder System** (Miami)	**2,341,978**	**2,256,633**	12	**101,094**	19	**646,910**	16
21	28	**Wetterau** (Hazelwood, Mo.)[6]	**2,276,622**	**407,027**	68	**15,415**	65	**146,684**	69
22	23	**Amfac** (Honolulu)	**2,253,102**	**1,439,510**	21	**(68,026)**	89	**443,678**	30
23	19	**Morrison-Knudsen** (Boise)	**2,165,987**	**859,022**	47	**41,512**	44	**325,469**	47
24	26	**IU International** (Wilmington, Del.)	**2,083,933**	**1,155,955**	32	**44,943**	38	**383,072**	40
25	29	**Genuine Parts** (Atlanta)	**2,068,231**	**867,721**	45	**103,634**	17	**636,218**	17
26	32	**Sysco** (Houston)[10]	**1,956,470**	**520,188**	62	**40,100**	45	**241,938**	53
27	36	**Humana** (Louisville)[5]	**1,765,123**	**2,217,800**	13	**160,649**	9	**608,634**	19
28	46	**National Medical Enterprises** (Los Angeles)[11]	**1,765,000**	**1,883,000**	17	**93,000**	21	**648,000**	15
29	22	**Turner Construction** (New York)	**1,709,940**	**435,529**	67	**11,407**	70	**50,126**	95
30	30	**Castle & Cooke** (Honolulu)[13]	**1,684,725**	**1,043,015**	36	**(49,665)**	88	**461,938**	29
31	18	**Pittston** (Greenwich, Conn.)	**1,636,546**	**1,060,394**	34	**(78,907)**	90	**530,555**	21
32	38	**Dun & Bradstreet** (New York)	**1,616,849**	**1,185,795**	30	**167,422**	8	**580,329**	20
33	33	**Whittaker** (Los Angeles)[2]	**1,602,825**	**973,722**	41	**37,609**	47	**346,921**	45
34	31	**Holiday Inns** (Memphis)	**1,585,080**	**1,936,536**	16	**124,399**	13	**1,039,562**	13
35	35	**MCA** (Universal City, Calif.)	**1,584,539**	**1,767,883**	18	**147,160**	11	**1,153,226**	11
36	●	**Foster Wheeler** (Livingston, N.J.)[14]	**1,540,853**	**908,305**	44	**44,213**	40	**372,797**	42
37	39	**S.M. Flickinger** (West Seneca, N.Y.)[15]	**1,476,515**	**190,773**	94	**11,747**	69	**76,457**	88
38	53	**Bergen Brunswig** (Los Angeles)[5]	**1,451,957**	**344,659**	79	**18,643**	59	**124,377**	77
39	37	**Farm House Foods** (Milwaukee)[6]	**1,442,650**	**256,692**	88	**145****	82	**26,036**	98
40	20	**AGRI Industries** (Des Moines)[5]	**1,414,768**	**364,719**	74	**N.A.**[4]		**54,297**	94
41	47	**Dorchester Gas** (Dallas)[5]	**1,369,705**	**525,307**	60	**17,652**	61	**161,348**	67
42	49	**American Medical International** (Beverly Hills, Calif.)[5]	**1,339,603**	**1,571,257**	20	**101,507**	18	**483,553**	28
43	41	**Fischbach** (New York)[9]	**1,339,020**	**508,282**	63	**26,667**	54	**183,290**	64
44	57	**Walt Disney Productions** (Burbank, Calif.)[9]	**1,307,357**	**2,381,195**	10	**93,160**	20	**1,400,528**	8
45	51	**Super Food Services** (Dayton, Ohio)[5]	**1,224,974**	**144,517**	97	**5,458**	75	**45,660**	96
46	40	**Eastern Gas & Fuel Associates** (Boston)	**1,199,564**	**1,265,969**	28	**42,719**	41	**519,426**	23
47	50	**Dairymen** (Louisville)[5]	**1,186,699**	**250,433**	90	**N.A.**[4]		**81,906**	87
48	56	**CFS Continental** (Chicago)[9]	**1,176,991**	**325,959**	81	**16,153**	64	**119,709**	79
49	45	**Avnet** (New York)[10]	**1,164,698**	**709,809**	52	**50,364**	32	**529,154**	22
50	65	**U.S. Home** (Houston)	**1,151,771**	**867,539**	46	**27,640**	53	**323,555**	48

THE DEFINITIONS AND CONCEPTS UNDERLYING THE FIGURES IN THIS DIRECTORY ARE EXPLAINED ON PAGE 194.

● Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

[1] Net sales include all operating revenues and revenues from discontinued operations when they are published. All figures are for the fiscal year ending December 31, 1983, unless otherwise noted. Sales of subsidiaries are included when they are consolidated. All companies on the list must have derived more than 50% of their revenues from non-manufacturing and/or non-mining businesses.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
6,700	56	1.6	59	21.0	14	3.35	2.48	0.44	22.37	13	30.83	29	31.38	12
110,500	1	2.7	44	9.0§	65	2.10	2.03	2.39	(1.29)	70	58.44	13	12.68	59
63,200	5	2.9	41	11.3	53	4.04	3.64	2.57	4.63	62	30.79	30	22.31	36
73,165	2	5.0	28	7.7	70	2.33	4.21	0.84	10.74	43	18.80	48	4.48	79
34,123	13	0.5	77	1.6	80	0.35	1.94	0.23	4.34	63	(7.44)	77	5.31	77
21,391	23	1.3	61	20.8	15	1.85	1.77	0.27	21.05	16	15.29	53	34.31	9
11,910	40	0.9	70	15.9	27	2.36	1.98	0.71	12.76	36	30.02	31	24.65	30
8,432	44	—		—		N.A.	N.A.	N.A.	—		—		—	
12,700	38	1.2	65	11.1§	54	3.36	4.59	2.05	5.07	60	5.03	62	20.11	43
60,781	6	4.2	34	13.0	42	6.31	4.01	3.27	6.79	57	15.56	52	14.99	53
33,624†	14	2.6	45	9.5§	62	2.22**	2.34	1.81	2.06	66	54.06	15	14.48	56
33,600	15	6.4	39	15.2	34	2.86	3.18	0.75	14.27	32	0.83	70	6.28	75
71,000	3	7.6	14	15.5	31	2.80	2.25	0.27	26.35	7	(4.42)	75	20.51	42
13,700	32	5.4	25	13.2	41	5.45	5.54	1.86	11.35	42	(0.69)	71	17.88	47
3,200	79	1.7	58	10.5§	60	3.05	2.90	1.90	4.82	61	(14.67)	82	(2.39)	83
14,492	30	2.0	54	13.7§	38	2.70	2.95	0.82	12.66	39	19.60	46	31.22	13
3,629	74	—		—		N.A.	N.A.	N.A.	—		—		—	
7,900	47	1.3	62	18.2	19	2.12	1.76	0.60	13.45	35	21.33	43	15.88	51
3,400†	76	—		—		N.A.	N.A.	N.A.	—		—		—	
22,904	21	4.3	33	15.6	29	4.43	3.73	1.20	14.00	33	21.58	41	12.80	58
7,574	49	0.7	73	10.5	59	1.91	0.25	0.97	7.06	56	10.07	56	9.40	68
26,300	20	—		—		(4.70)	2.27	2.36	—		19.00	47	14.80	55
19,670	24	1.9	57	12.8	45	3.97	3.86	0.99	14.93	28	21.42	42	17.82	48
35,000	11	2.2	51	11.7	50	1.74	1.44	2.31	(2.79)	73	95.95	4	14.84	54
13,100	34	5.0	27	16.3	25	2.87	2.77	0.87	12.72	37	2.45	66	10.08	66
7,500	51	2.1	53	16.6	23	1.94	1.71	0.35	18.72	19	(6.19)	76	25.24	26
42,000	9	9.1	10	25.3§	7	1.96	1.60	0.09	35.96	3	(20.44)	87	47.39	3
50,200	7	5.3	26	14.4	37	1.47	1.28	0.16	25.04	9	0.91	69	43.21	4
2,368	86	0.7	74	22.8	9	2.93	2.71	0.83	13.48	34	33.33	26	25.05	27
35,000†	10	—		—		(1.95)	0.28	1.09	—		100.00	3	11.19	65
13,519	33	—		—		(2.08)	(0.31)	0.40‡	—		4.00	64	6.50	73
26,361	19	10.4	5	28.8	5	2.97	2.53	0.73	14.99	27	29.03	34	18.49	46
16,800	26	2.4	48	10.8	58	2.55	3.77	(0.32)‡	—		(20.40)	86	28.18	23
45,224	8	7.9	12	12.0	47	3.28	1.94	1.50	8.14	49	31.96	27	17.03	49
16,000	27	9.3	9	12.8	44	3.06	3.69	0.58	18.16	21	22.47	40	30.86	17
13,000	37	2.9	42	11.9	48	1.30	1.67	0.34	14.38	31	22.62	39	11.65	63
7,025	54	0.8	71	15.4	32	2.42	2.10	0.59	15.26	25	25.65	37	29.13	21
2,537	81	1.3	64	15.0	35	1.50	1.35	0.11**	30.26	5	(7.53)	78	37.60	5
4,500	69	0.0	82	0.6	82	0.02**	0.46	(0.00)**	—		48.24	16	—	
585	98	—		—		N.A.	N.A.	N.A.	—		—		—	
1,130	94	1.3	63	10.9	55	1.01	1.01	0.22	16.46	23	87.96	7	21.40	38
32,000	16	7.6	15	21.0	13	2.05	1.69	0.28	21.87	14	(10.88)	79	33.35	11
12,000	39	2.0	55	14.5	36	7.39	7.59	3.08	9.15	48	6.92	57	4.43	80
30,000	18	7.1	17	6.7	73	2.70	3.01	1.52	5.91	58	(14.90)	83	3.13	81
2,015	90	0.5	78	11.7§	51	2.04	1.13	0.44	16.52	22	136.98	1	31.03	16
7,200	53	3.6	37	8.2	67	1.87	2.91	0.87	7.99	50	16.99	51	12.38	61
5,023	65	—		—		N.A.	N.A.	N.A.	—		—		—	
4,000	73	1.4	60	13.4§	39	1.87	1.71	0.77	9.33	45	(3.70)	74	12.91	57
7,800	48	4.3	32	9.5	61	1.43	2.01	0.71	7.27	54	55.00	14	33.58	10
2,331	87	2.4	47	8.5	66	0.80	0.38**	0.60	2.86	65	(13.14)	81	22.28	37

Excluded (but eligible for the lists that follow) are companies deriving more than 50% of their revenues solely from banking, life insurance, finance, retailing, transportation, or utilities.

[2] Figures are for fiscal year ending October 31, 1983.
[3] Figures are for fiscal year ending February 28, 1983.
[4] Cooperatives provide only net margin figures, which are not comparable with the net income figure in these listings.
[5] Figures are for fiscal year ending August 31, 1983.
[6] Figures are for fiscal year ending March 31, 1983.
[7] Name changed from Foremost-McKesson on July 27, 1983.
[8] Company was No. 78 on the 1982 FORTUNE 500.
[9] Figures are for fiscal year ending September 30, 1983.
[10] Figures are for fiscal year ending June 30, 1983.
[11] Figures are for fiscal year ending May 31, 1983.
[12] Name changed from Grain Terminal Association on June 1, 1983.
[13] Figures are for fiscal year ending June 18, 1983.
[14] Company was No. 215 on the 1982 FORTUNE 500.
[15] Figures are for fiscal year ending July 31, 1983.

THE 100 LARGEST DIVERSIFIED SERVICE COMPANIES, RANKED BY SALES

RANK		COMPANY	SALES[1]	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
51	52	**Nash-Finch** (St. Louis Park, Minn.)	1,140,599	195,070	93	11,067	71	93,404	85
52	68	**Beverly Enterprises** (Pasadena, Calif.)	1,091,452	1,397,571	22	35,402	49	386,013	39
53	43	**Universal Leaf Tobacco** (Richmond, Va.)[10]	1,081,903	403,720	71	36,641	48	215,268	58
54	●	**Indiana Farm Bureau Cooperative** (Indianapolis)[5]	1,073,433	275,923	87	N.A.[4]		90,837	86
55	60	**Subaru of America** (Pennsauken, N.J.)[2]	1,057,475	255,149	89	49,518	33	146,405	70
56	61	**Waste Management** (Oak Brook, Ill.)	1,039,989	1,337,963	25	120,447	14	767,865	14
57	64	**Di Giorgio** (San Francisco)	1,019,978	404,009	70	8,110	73	120,011	78
58	55	**Centex** (Dallas)[6]	1,002,389	1,028,990	37	39,572	46	362,194	44
59	62	**Gelco** (Eden Prairie, Minn.)[15]	938,744	2,398,412	9	(30,018)	87	206,038	59
60	63	**Univar** (Seattle)[3]	930,080	381,592	73	5,136	77	97,663	83
61	70	**W.W. Grainger** (Skokie, Ill.)	880,076	617,363	56	51,744	31	411,936	35
62	74	**Nike** (Beaverton, Ore.)[11]	867,212	508,028	64	57,004	27	240,613	54
63	●	**Pulte Home** (West Bloomfield, Mich.)	863,314	352,664	78	48,930	35	133,936	74
64	54	**Commercial Metals** (Dallas)[5]	861,758	236,791	91	8,087	74	115,614	80
65	58	**Perini** (Framingham, Mass.)	852,390	229,495	84	9,195	72	99,139	82
66	●	**GATX** (Chicago)[16]	848,600	2,531,100	8	(93,100)	91	443,500	31
67	73	**Browning-Ferris Industries** (Houston)[9]	843,545	783,029	50	79,679	22	397,034	38
68	48	**Dravo** (Pittsburgh)	842,110	605,413	57	(14,363)	84	229,209	57
69	44	**Parsons** (Pasadena, Calif.)	839,828	525,465	59	45,777	37	204,539	60
70	66	**Pacific Gamble Robinson** (Kirkland, Wash.)	833,199	156,031	95	3,121	79	55,071	93
71	42	**Bally Manufacturing** (Chicago)	821,503	1,301,045	27	5,158	76	490,595	27
72	71	**Blount** (Montgomery, Ala.)[3]	788,733	353,403	77	16,749	62	93,611	84
73	72	**Transway International** (New York)	765,007	355,504	75	14,716	67	179,538	65
74	79	**Automatic Data Processing** (Roseland, N.J.)[10]	752,825	645,234	55	64,521	25	420,838	34
75	69	**MGM/UA Entertainment** (Culver City, Calif.)[5]	723,043	1,324,920	26	41,873	42	369,641	43
76	92	**ServiceMaster Industries** (Downers Grove, Ill.)	700,638	94,644	99	25,611	56	50,591	92
77	84	**Computer Sciences** (El Segundo, Calif.)[6]	694,914	353,440	76	17,898	60	138,676	71
78	87	**Kay** (Alexandria, Va.)	689,256	299,372	83	1,808	80	31,829	97
79	82	**A.C. Nielsen** (Northbrook, Ill.)[5]	680,262	524,673	61	49,449	34	251,844	52
80	81	**Landmark** (Columbus, Ohio)[5]	655,579	153,936	96	N.A.[4]		18,153	100
81	91	**Hilton Hotels** (Beverly Hills, Calif.)	649,280	1,099,212	33	112,637	15	634,297	18
82	76	**Southern States Cooperative** (Richmond, Va.)[10]	642,259	280,886	85	N.A.[4]		131,766	75
83	●	**Price Co.** (San Diego)[5]	640,567	141,145	98	14,732	66	69,031	89
84	78	**Parker Pen** (Janesville, Wis.)[3]	635,278	299,674	82	(13,598)	83	137,734	73
85	77	**Sunkist Growers** (Sherman Oaks, Calif.)[2]	632,631	211,144	92	N.A.[4]		62,802	91
86	●	**Electronic Data Systems** (Dallas)[10]	629,701	405,706	69	58,655	26	259,612	51
87	89	**Early & Daniel Industries** (Indianapolis)[11]	626,052	86,070	100	1,151	81	21,066	99
88	●	**Cox Communications** (Atlanta)	614,623	940,263	42	77,950	23	500,238	26
89	●	**Ryan Homes** (Pittsburgh)	598,206	341,322	80	20,934	58	127,045	76
90	95	**Interpublic Group of Companies** (New York)	585,948	682,702	53	25,380	57	157,250	68
91	80	**Kaneb Services** (Sugar Land, Tex.)	578,334	807,692	49	44,475	39	311,078	49
92	88	**DEKALB AgResearch** (DeKalb, Ill.)[5]	577,300	939,300	43	16,500	63	380,200	41
93	●	**PHH Group** (Hunt Valley, Md.)[17]	576,543	1,340,380	24	34,624	50	187,717	62
94	94	**Ramada Inns** (Phoenix)	573,831	761,031	51	12,397**	68	238,327	56
95	90	**Caesars World** (Los Angeles)[15]	567,286	497,496	65	(21,043)‡	85	137,838	72
96	●	**Arrow Electronics** (Greenwich, Conn.)	566,594	276,191	86	5,102	78	65,567	90
97	96	**SEDCO** (Dallas)[10]	560,189	981,143	39	133,882	12	440,881	32
98	●	**Kaufman & Broad** (Los Angeles)[18]	559,550	1,176,710	31	26,268**	55	240,300	55
99	●	**Comdisco** (Rosemont, Ill.)[9]	543,180	975,004	40	51,840	30	191,487	61
100	75	**Western Co. of North America** (Fort Worth)	540,486	1,263,922	29	(22,461)	86	407,155	37
		TOTALS	194,050,194	153,644,694		5,039,423		45,051,776	

● Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[16] Company was No. 286 on the 1982 FORTUNE 500.

[17] Figures are for fiscal year ending April 30, 1983.

[18] Figures are for fiscal year ending November 30, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
5,108	64	1.0	67	11.8	49	2.18	2.27	0.90	9.25	46	—		—	
69,000	4	3.2	40	9.2	64	1.45	1.33	(0.19)‡	—		(35.74)	89	35.63	7
1,350†	93	3.4	39	17.0§	22	4.21	3.93	1.04	15.03	26	35.61	23	24.89	28
1,045	95	—		—		N.A.	N.A.	N.A.	—		—		—	
700	97	4.7	30	33.8	3	8.17	6.52	0.42**	34.55	4	29.17	33	—	
17,400	25	11.6	4	15.7	28	1.95	2.40	0.29	21.13	15	(12.20)	80	26.08	25
4,600†	68	0.8	72	6.8	72	1.21	0.92	1.55	(2.45)	72	26.88	36	11.96	62
4,000	72	4.0	35	10.9	57	2.01	1.41	0.65	12.01	41	6.48	60	15.42	52
8,248	45	—		—		(2.53)	2.51	0.47	—		4.62	63	20.77	41
3,408	75	0.6	76	5.3	77	0.92	3.21	0.38	9.15	47	36.74	22	23.44	33
5,970	59	5.9	21	12.6	46	3.58	3.50	1.37	10.08	44	17.18	50	8.02	70
4,300	71	6.6	18	23.7§	8	1.53	1.37	N.A.	—		(35.73)	88	—	
2,100	88	5.7	23	36.5	2	1.84	0.90	0.02	56.53	1	28.28	35	72.47	1
2,442	83	0.9	68	7.0	71	1.25	1.47	0.91	3.18	64	90.08	6	23.36	34
7,500†	50	1.1	66	9.3	63	2.85	4.65	1.44**	7.07	55	71.76	9	29.56	20
7,900	46	—		—		(7.84)	2.41	4.51	—		38.06	21	0.74	82
15,500	29	9.5	7	19.9§	16	2.40	2.07	0.60	14.87	29	23.38	38	22.81	35
8,950	43	—		—		(1.11)	(0.38)**	1.24	—		18.18	49	5.83	76
7,000	55	5.5	24	22.4	11	1.85	1.73	0.16	27.73	6	60.95	11	27.43	24
5,000†	66	0.4	79	5.7	75	1.64	2.03	2.08	(2.37)	71	41.74	20	8.85	69
34,650†	12	0.6	75	1.1	81	0.20	3.20	0.61	(10.55)	76	(15.19)	84	7.21	71
6,100	58	2.1	52	17.9	20	2.75	2.04	0.63	15.88	24	81.86	8	30.05	18
5,750	60	1.9	56	8.2	68	2.24	2.14	2.50	(1.09)	68	45.05	17	18.56	45
15,500	28	8.6	11	15.3	33	1.86	1.71	0.35	18.18	20	(2.62)	73	11.37	64
2,700	80	5.8	22	11.3	52	0.83	0.55	N.A.	—		123.77	2	—	
6,456	57	3.7	36	43.7	1	1.17	0.98	0.12	25.73	8	19.92	45	29.72	19
13,000	35	2.6	46	12.9	43	1.32	1.31	0.03**	46.00	2	1.31	68	24.73	29
3,319	78	0.3	80	5.7	74	0.50	1.06	0.49	0.20	67	2.34	67	18.76	44
21,692	22	7.3	16	19.6	17	2.20	1.97	0.56	14.56	30	7.48	59	12.51	60
938	96	—		—		N.A.	N.A.	N.A.	—		—		—	
32,000†	17	17.4	2	17.8	21	4.20	3.12	0.53	22.88	12	31.40	28	34.47	8
2,100	89	—		—		N.A.	N.A.	N.A.	—		—		—	
2,458	82	2.3	49	21.3	12	1.35	0.79	N.A.	—		34.90	24	—	
5,630	62	—		—		(0.80)	0.92	0.29	—		34.62	25	23.67	32
1,809	91	—		—		N.A.	N.A.	N.A.	—		—		—	
13,000	36	9.3	8	22.6	10	1.05	0.86	0.32	12.71	38	43.13	18	23.78	31
325	100	0.2	81	5.5	76	15.54	(11.77)	28.32	(5.82)	75	—		—	
7,200	52	12.7	3	15.6	30	2.75	2.31	0.45	19.71	17	6.23	61	28.47	22
1,795	92	3.5	38	16.5	24	2.94	0.66	1.42	7.55	53	(17.95)	85	16.44	50
11,500	41	4.3	31	16.1	26	2.43	2.13	0.76	12.31	40	11.50	54	31.06	15
4,799	67	7.7	13	13.4§	40	1.75	2.62	0.82**	7.93	51	2.77	65	9.87	67
5,700	61	2.9	43	4.3	79	1.26	1.46	1.41	(1.12)	69	62.51	10	(4.17)	84
2,390	85	6.0	20	18.4	18	2.20	1.93	0.39	18.74	18	(1.89)	72	20.79	40
13,930	31	2.2	50	5.2	78	0.38**	(0.73)	0.61	(4.62)	74	92.68	5	6.43	74
9,900	42	—		—		(0.97)‡	0.04	0.28**	—		58.62	12	36.09	6
2,400	84	0.9	69	7.8	69	0.85	(1.19)	0.50	5.54	59	42.39	19	31.19	14
4,500†	70	23.9	1	30.4	4	6.04	8.83	0.71**	23.87	11	29.98	32	6.71	72
3,400	77	4.7	29	10.9	56	1.73**	(1.96)	0.83	7.62	52	20.16	44	4.81	78
504	99	9.5	6	27.1	6	0.95	1.13	0.11	24.58	10	11.07	55	48.80	2
5,300	63	—		—		(0.67)	1.27	0.08	—		8.39	58	21.00	39
1,520,379														

THE 100 LARGEST COMMERCIAL BANKING COMPANIES RANKED BY ASSETS

RANK 1983	 1982	COMPANY	ASSETS[1] $ THOUSANDS	DEPOSITS $ THOUSANDS	 RANK	LOANS[2] $ THOUSANDS	 RANK	EMPLOYEES $ NUMBER	 RANK
1	1	**Citicorp** (New York)	134,655,000	79,794,000	2	90,283,000	1	63,700	2
2	2	**BankAmerica Corp.** (San Francisco)[3]	121,175,689	95,750,672	1	81,326,825	2	91,068	1
3	3	**Chase Manhattan Corp.** (New York)	81,921,449	56,299,557	3	55,329,418	3	37,230	3
4	4	**Manufacturers Hanover Corp.** (New York)	64,332,306	42,284,115	4	47,852,437	4	28,250	5
5	5	**J.P. Morgan & Co.** (New York)	58,023,000	38,070,000	5	32,974,000	6	12,965	12
6	6	**Chemical New York Corp.**	51,164,860	32,452,401	6	33,327,585	5	19,464	7
7	8	**First Interstate Bancorp.** (Los Angeles)	44,422,997	32,030,652	7	25,459,185	9	31,719†	4
8	7	**Continental Illinois Corp.** (Chicago)	42,097,371	29,431,468	8	30,776,484	7	12,189	13
9	10	**Security Pacific Corp.** (Los Angeles)	40,382,185	27,842,915	9	28,324,676	8	28,157	6
10	9	**Bankers Trust New York Corp.**	40,003,359	22,829,079	11	23,383,213	10	11,653	15
11	11	**First Chicago Corp.**	36,323,324	27,680,040	10	22,032,326	11	11,154	16
12	13	**Wells Fargo & Co.** (San Francisco)	27,017,621	20,360,996	12	20,068,019	12	16,200	9
13	15	**Mellon National Corp.** (Pittsburgh)[4]	26,432,958	15,692,507	16	15,247,385	14	11,939	14
14	12	**Crocker National Corp.** (San Francisco)	23,393,460	18,927,793	13	15,995,055	13	14,256	10
15	16	**Marine Midland Banks** (Buffalo)[5]	22,872,245	16,077,465	15	13,049,884	16	11,132†	17
16	14	**InterFirst Corp.** (Dallas)	21,736,000	16,909,000	14	14,363,000	15	10,625	19
17	22	**First Bank System** (Minneapolis)	20,871,147	13,430,315	20	10,985,466	21	9,805†	20
18	20	**Norwest Corp.** (Minneapolis)[6]	19,854,235	13,552,190	19	12,082,588	17	17,721	8
19	18	**Bank of Boston Corp.**[7]	19,538,382	12,380,924	23	11,760,081	19	14,000	11
20	19	**Texas Commerce Bancshares** (Houston)	19,499,000	13,051,000	21	11,535,000	20	7,939	27
21	21	**RepublicBank Corp.** (Dallas)	19,081,721	13,907,085	17	11,780,652	18	8,417	24
22	17	**Irving Bank Corp.** (New York)	18,586,055	12,609,924	22	10,363,526	22	9,600	21
23	23	**First City Bancorp. of Texas** (Houston)	17,262,782	13,713,645	18	10,234,753	23	8,533	23
24	25	**NBD Bancorp.** (Detroit)	13,244,777	8,946,664	26	5,679,587	29	6,690	33
25	26	**NCNB Corp.** (Charlotte, N.C.)	12,807,706	8,812,998	27	6,867,374	26	7,635	28
26	24	**Bank of New York Co.**	12,797,199	9,559,648	24	8,058,487	24	8,251	25
27	31	**PNC Financial Corp.** (Pittsburgh)[8]	12,244,896	7,437,091	29	5,886,760	27	6,453	36
28	27	**Mercantile Texas Corp.** (Dallas)	11,883,744	9,016,812	25	7,382,474	25	6,933	31
29	29	**Republic New York Corp.**	10,119,099	7,085,487	31	2,580,898	70	2,150	97
30	37	**Barnett Banks of Florida** (Jacksonville)	9,396,921	8,062,537	28	5,038,322	32	10,674	18
31	62	**Sun Banks** (Orlando, Fla.)[10]	8,901,312	7,268,021	30	4,491,374	38	9,200	22
32	34	**Southeast Banking Corp.** (Miami)	8,883,486	6,640,110	34	4,299,659	42	7,013	29
33	30	**European American Bancorp.** (New York)[11]	8,712,632	5,960,299	39	5,734,719	28	4,494	55
34	43	**CoreStates Financial Corp.** (Philadelphia)[12]	8,587,300	6,111,688	37	4,944,034	33	6,301	37
35	33	**Comerica** (Detroit)	8,556,507	6,967,212	32	3,751,445	47	5,756	39
36	35	**Valley National Corp.** (Phoenix)	8,145,940	6,543,544	35	4,646,854	35	6,715	32
37	38	**Southwest Bancshares** (Houston)	7,988,614	6,676,328	33	4,459,972	39	4,209	63
38	32	**Union Bank** (Los Angeles)[13]	7,923,025	6,068,815	38	5,068,776	31	5,485	42
39	46	**Allied Bancshares** (Houston)	7,895,072	6,472,409	36	5,514,794	30	3,700	74
40	39	**Wachovia Corp.** (Winston-Salem, N.C.)	7,850,135	5,820,624	42	3,887,567	43	6,544	35
41	41	**National Westminster Bank USA** (New York)[14, 15]	7,470,847	5,746,245	43	4,582,104	36	4,400	57
42	36	**Harris Bankcorp.** (Chicago)	7,425,322	5,059,847	46	3,831,998	45	3,855	69
43	61	**Banc One Corp.** (Columbus, Ohio)	7,270,481	5,937,069	41	4,306,420	41	6,939	30
44	81	**Sovran Financial Corp.** (Norfolk, Va.)[16]	7,187,018	5,567,498	44	4,532,846	37	8,171	26
45	47	**Citizens & Southern Georgia Corp.** (Atlanta)	6,933,515	4,559,908	53	3,822,013	46	5,800	38
46	42	**Michigan National Corp.** (Bloomfield Hills)	6,850,584	5,955,070	40	4,919,761	34	6,600	34
47	45	**First Union Corp.** (Charlotte, N.C.)	6,803,163	4,318,521	60	3,459,450	50	5,310	46
48	40	**National City Corp.** (Cleveland)	6,585,900	4,566,587	52	3,367,691	54	4,176	64
49	50	**U.S. Bancorp.** (Portland, Ore.)	6,511,437	4,470,996	57	3,838,250	44	5,550	40
50	44	**Northern Trust Corp.** (Chicago)	6,438,196	4,372,005	59	3,088,393	64	4,233	62

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[1] As of December 31, 1983.

[2] Net of unearned discount and loan loss reserve. Figure includes lease financing.

[3] Company acquired Seafirst Corp. (1982 rank: No. 28) on July 1, 1983.

[4] Company acquired Girard (1982 rank: No. 66) on April 6, 1983.

[5] Company is 51% owned by the Hongkong & Shanghai Banking Corp. (No. 20 among the 1982 Largest Commercial Banking Companies Outside the U.S.).

[6] Name changed from Northwest Bancorp. on May 2, 1983.

[7] Name changed from First National Boston Corp. on April 1, 1983.

NETINCOME		STOCKHOLDERS' EQUITY		NET INCOME AS PERCENT OF EQUITY		EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
									1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
$ THOUSANDS	RANK	$ THOUSANDS	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
860,000	1	5,771,000	1	14.8§	20	6.48	5.60	2.11	11.87	14	19.89	73	2.34	82
390,468	4	5,136,162	2	7.6	86	2.18	3.03	1.60	3.11	81	11.28	82	3.77	77
429,607	3	3,425,825	3	12.5§	48	10.96	7.73	5.10	7.95	56	0.00	91	4.76	73
336,964	5	2,671,065	5	12.6	46	8.37	7.78	3.44	9.30	37	(1.41)	93	7.12	66
460,000	2	3,319,000	4	13.9	27	10.52	9.53	3.84	10.60	24	5.30	88	4.37	75
305,563	6	2,305,332	6	13.3	38	9.50	8.41	3.23	11.38	18	16.42	77	12.98	44
247,404	9	2,091,663	7	11.8	55	5.76	5.35	2.21	10.07	31	39.73	49	15.83	22
108,319	19	1,821,574	8	5.9	90	2.63	1.95	2.47	0.61	88	17.18	76	4.48	74
264,267	7	1,781,639	10	14.8	19	7.23	6.53	2.07	13.33	7	72.48	11	19.75	3
261,239	8	1,790,111	9	14.6	22	8.55	8.34	2.88	11.51	17	27.61	65	14.92	32
183,534	11	1,742,070	11	10.5	72	3.92	3.33	2.30	5.45	74	46.79	34	2.35	81
154,900	13	1,347,771	13	11.5	59	6.03	5.81	2.21	10.56	25	54.59	21	11.86	49
183,815	10	1,383,073	12	12.9§	43	7.44	6.83	3.30**	8.47	49	41.10	44	15.05	31
(10,423)	98	1,228,446	14	—		(0.63)	3.62	3.12	—		0.09	90	8.97	58
101,085	20	1,046,010	18	9.7	78	4.85	4.54	3.65	2.88	82	39.47	50	8.22	61
(172,000)	100	1,079,000	17	—		(2.82)	3.80	1.06	—		(22.92)	95	0.47	85
129,747	16	1,105,334	16	11.7	56	8.46	7.66	3.51	9.20	38	57.63	17	4.36	76
125,202	17	1,130,062	15	11.1	66	4.05	3.08	1.94	7.64	57	43.86	39	6.07	69
135,736	14	1,007,352	20	13.5	34	7.40	6.67	2.85	10.00	32	26.28	68	10.85	53
177,000	12	1,019,000	19	17.4	4	5.50	5.35	1.14	17.04	2	14.13	80	8.44	60
130,168	15	977,222	21	13.3	36	4.60	5.18	1.27	13.77	4	7.49	85	8.07	62
92,464	23	816,391	23	11.3	64	9.72	9.13	3.70	10.14	28	37.13	55	15.15	30
49,785	42	886,072	22	5.6	91	1.23	3.52	1.23	(0.04)	89	(8.30)	94	3.74	79
81,689	31	797,648	24	10.2	75	6.75	6.69	3.35	7.24	62	56.35	20	16.15	20
92,162	24	608,687	29	15.1	17	3.68	3.18	1.55	9.03	42	51.49	25	1.24	84
90,612	25	664,003	26	13.6	29	5.70	5.09	2.40	9.04	41	38.63	54	15.67	24
117,046	18	765,160	25	15.3	14	5.66	4.98[9]	1.90[9]	11.53	16	40.14	48	16.46	18
100,360	21	660,613	27	15.2	16	3.98	4.15	1.10	13.68	5	6.59	86	—	
84,665	27	589,981	30	13.8§	28	5.47	5.26	1.53	13.61	6	(0.03)	92	18.23	8
81,909	30	510,533	32	16.0	8	4.61	3.46	1.64	10.89	20	48.67	31	7.12	67
46,347	49	503,815	34	9.2	80	3.08	2.66	1.55	7.11	66	24.79	69	3.76	78
54,522	37	476,585	38	11.4	60	3.01	3.03	2.15	3.40	79	23.95	70	3.04	80
19,230	91	385,816	49	5.0	96	N.A.	N.A.	N.A.	—		—		—	
85,414	26	510,160	33	15.6§	11	5.70	4.86	2.18	10.09	30	26.80	67	15.19	29
48,714	44	462,551	40	10.5	73	4.39	3.72	2.32	6.57	68	36.85	56	15.42	27
45,799	50	437,176	42	10.5	74	2.72	3.00	1.11	9.34	36	48.77	30	11.40	51
39,843	53	413,206	45	9.6	79	2.48	4.31	1.53	4.97	76	14.73	79	14.09	37
38,596	55	394,246	48	9.8	77	N.A.	N.A.	N.A.	—		—		—	
98,776	22	457,035	41	21.6	2	2.55	2.22	0.41	20.09	1	18.97	74	—	
84,582	28	493,825	36	17.1	5	5.26	3.33	2.19	9.16	39	44.25	38	9.93	56
25,332	83	498,067	35	5.1	94	N.A.	N.A.	N.A.	—		—		—	
31,255	73	398,505	46	7.8	85	4.71	5.42	3.73	2.36	84	120.64	2	16.80	16
83,278	29	557,016	31	14.4§	24	2.55	2.18	0.78	12.57	10	3.81	89	16.69	17
65,530	33	428,048	43	15.3	13	4.12	4.23	1.77	8.84	45	68.84	12	16.01	21
57,896	36	376,037	51	15.4	12	1.89	1.67	1.10	5.56	73	40.75	46	1.80	83
(5,567)	97	316,286	62	—		(0.57)	0.30	2.05	—		34.62	59	7.42	65
58,509	34	384,046	50	15.2	15	5.39	4.37	1.95	10.68	22	65.86	14	16.86	15
48,061	45	421,023	44	11.4	61	4.26	3.75	2.14	7.13	64	53.52	23	13.12	43
52,354	38	482,452	37	10.9	70	2.93	2.91	1.23	9.09	40	32.64	61	11.28	52
18,345	93	346,048	55	5.3	92	3.76	6.71	4.08	(0.81)	90	39.38	52	12.02	48

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[8] Company formed by the merger of Pittsburgh National Corp. (1982 rank: No. 31) and Provident National Corp. (1982 rank: No. 77) on January 19, 1983.

[9] Figure is for Pittsburgh National.

[10] Name changed from Sun Banks of Florida on May 1, 1983.

[11] Company is wholly owned by six European banks, all of which are ranked on FORTUNE's list of the Largest Commercial Banking Companies Outside the U.S.

[12] Name changed from Philadelphia National Corp. following the acquisition of National Central Financial Corp. on May 2, 1983.

[13] Company is wholly owned by Standard Chartered Bank PLC. (No. 45 among the 1982 Largest Commercial Banking Companies Outside the U.S.).

[14] Name changed from National Bank of North America on September 26, 1983.

[15] Company is wholly owned by National Westminster Bank PLC. (No. 6 among the 1982 Largest Commercial Banking Companies Outside the U.S.).

[16] Name changed from Virginia National Bankshares (1982 rank: No. 81) following merger with First and Merchants Corp. on December 30, 1983.

THE 100 LARGEST COMMERCIAL BANKING COMPANIES RANKED BY ASSETS

RANK		COMPANY	ASSETS[1]	DEPOSITS		LOANS[2]		EMPLOYEES	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ NUMBER	RANK
51	63	**First National State Bancorp.** (Newark)[17]	6,416,973	4,971,399	47	3,346,153	55	5,300	47
52	72	**Midlantic Banks** (Edison, N.J.)	6,413,414	5,183,352	45	3,377,110	53	4,834	52
53	48	**Rainier Bancorp.** (Seattle)	6,412,815	4,859,654	50	4,430,904	40	5,422	45
54	58	**CBT Corp.** (Hartford)	6,072,455	4,515,245	54	2,857,179	68	5,459	44
55	49	**BancOhio Corp.** (Columbus)	6,062,435	4,907,395	48	3,317,718	56	5,473	43
56	55	**Manufacturers National Corp.** (Detroit)	5,806,686	4,598,719	51	3,228,281	59	3,730	71
57	59	**Bank of New England Corp.** (Boston)	5,800,863	4,887,421	49	3,644,027	49	4,335	58
58	51	**AmeriTrust Corp.** (Cleveland)	5,797,131	4,479,907	56	3,395,547	52	3,906	67
59	71	**First Atlanta Corp.**	5,761,817	3,703,296	72	3,238,660	58	4,404	56
60	54	**Shawmut Corp.** (Boston)	5,755,176	4,298,688	61	3,187,422	60	5,196	48
61	60	**Maryland National Corp.** (Baltimore)	5,740,248	3,513,626	78	3,305,739	57	5,011	50
62	76	**Fidelcor** (Philadelphia)	5,661,938	4,487,767	55	2,292,469	79	3,300	82
63	52	**Mercantile Bancorp.** (St. Louis)	5,508,208	4,120,824	63	2,891,506	66	3,875	68
64	56	**Huntington Bancshares** (Columbus, Ohio)	5,425,909	4,046,960	64	2,888,524	67	4,309	59
65	64	**United Virginia Bankshares** (Richmond)	5,414,776	4,003,783	65	3,711,598	48	5,113	49
66	67	**Texas American Bancshares** (Fort Worth)	5,409,412	4,184,280	62	3,435,200	51	3,266	84
67	57	**Centerre Bancorp.** (St. Louis)	5,353,886	3,679,823	73	2,479,360	74	3,518	77
68	86	**Norstar Bancorp.** (Albany, N.Y.)	5,350,757	4,457,482	58	2,489,336	73	5,486	41
69	53	**First Pennsylvania Corp.** (Philadelphia)	5,151,888	3,779,796	71	3,022,009	65	3,725	72
70	65	**First Wisconsin Corp.** (Milwaukee)	5,062,113	3,788,156	70	3,174,897	61	4,269	60
71	68	**First Security Corp.** (Salt Lake City)	4,943,537	3,627,092	74	3,109,074	62	4,904	51
72	70	**Trust Company of Georgia** (Atlanta)	4,849,807	3,536,288	76	2,418,432	76	4,640	54
73	84	**Riggs National Corp.** (Washington, D.C.)	4,766,206	3,882,311	67	1,612,534	98	1,888	98
74	75	**Hartford National Corp.**	4,675,579	3,516,229	77	2,424,193	75	3,917	66
75	85	**BayBanks** (Boston)	4,639,296	3,921,150	66	2,501,137	72	4,798	53
76	92	**First Tennessee National Corp.** (Memphis)	4,617,075	3,563,548	75	2,263,397	80	3,653	75
77	74	**Bank of Tokyo Trust** (New York)[18]	4,505,212	3,835,872	68	2,607,648	69	369	100
78	73	**California First Bank** (San Francisco)[19]	4,346,847	3,818,193	69	3,089,887	63	4,080	65
79	79	**Society Corp.** (Cleveland)	4,282,842	3,367,107	80	2,249,870	81	3,216	86
80	80	**Lincoln First Banks** (Rochester, N.Y.)	4,178,818	3,066,226	83	2,537,598	71	3,286	83
81	83	**First of America Bank Corp.** (Kalamazoo, Mich.)	4,109,055	3,496,527	79	2,374,887	77	3,814	70
82	78	**State Street Boston Corp.**	4,044,454	2,485,354	99	1,345,832	100	3,450	79
83	87	**United Banks of Colorado** (Denver)	3,868,021	3,040,730	84	2,317,711	78	3,177	89
84	82	**BanCal Tri-State Corp.** (San Francisco)	3,866,554	2,625,160	97	2,239,902	83	2,234	96
85	93	**Bank of Virginia Co.** (Richmond)	3,849,769	2,915,874	89	2,208,838	85	3,177	88
86	99	**Dominion Bankshares** (Roanoke, Va.)	3,825,881	2,752,773	95	2,155,553	86	3,081	90
87	90	**Fidelity Union Bancorp.** (Newark)[20]	3,766,286	2,980,274	88	2,045,978	87	3,200	87
88	●	**First American Bankshares** (Washington, D.C.)	3,752,773	3,009,765	86	1,803,843	93	3,424	80
89	●	**Meridian Bancorp.** (Reading, Pa.)	3,728,219	3,090,387	82	2,234,584	84	2,883	93
90	●	**Third National Corp.** (Nashville)	3,725,670	3,014,459	85	1,883,026	90	3,360	81
91	91	**American Security Corp.** (Washington, D.C.)	3,724,527	2,753,382	94	1,969,037	89	1,464	99
92	●	**Old Kent Financial Corp.** (Grand Rapids, Mich.)	3,706,353	3,166,697	81	1,733,190	96	3,000	91
93	89	**First Maryland Bancorp.** (Baltimore)	3,654,837	2,480,635	100	2,244,159	82	3,542	76
94	97	**AmSouth Bancorp.** (Birmingham, Ala.)	3,636,580	2,811,487	92	1,985,846	88	3,500	78
95	98	**United Jersey Banks** (Princeton)	3,635,355	3,004,113	87	1,816,840	92	2,974	92
96	88	**Florida National Banks of Florida** (Jacksonville)	3,549,946	2,872,325	90	1,801,225	94	4,251	61
97	●	**Boatmen's Bancshares** (St. Louis)	3,505,267	2,527,795	98	1,519,670	99	2,237	95
98	●	**First American Corp.** (Nashville)	3,497,303	2,827,555	91	1,775,629	95	2,771	94
99	●	**Key Banks** (Albany, N.Y.)	3,491,732	2,807,175	93	1,829,053	91	3,714	73
100	94	**Commerce Bancshares** (Kansas City, Mo.)	3,477,147	2,701,819	96	1,681,566	97	3,237	85
		TOTALS	1,440,661,822	1,019,047,751		884,070,358		838,125	

● Not on last year's list

* N.A. Not available.

** Reflects an extraordinary credit of at least 10%, see the explanations of "net income" and "earnings per share" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[17] Company acquired Fidelity Union Bancorp. (1983 rank: No. 87)on April 5, 1984.

[18] Company is wholly owned by Bank of Tokyo Ltd. (No. 14 among the 1982 Largest Commercial Banking Companies Outside the U.S.).

[19] Company is 76% owned by Bank of Tokyo Ltd. (No. 14 among the 1982 Largest Commercial Banking Companies Outside the U.S.)

[20] Company was acquired by First National State Bancorp. (1983 rank: No. 51) on April 5, 1984.

[21] Figure is for American Bank & Trust.

NETINCOME		STOCKHOLDERS' EQUITY		NET INCOME AS PERCENT OF EQUITY		EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
									1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
$ THOUSANDS	RANK	$ THOUSANDS	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
47,403	47	356,527	53	13.3	37	7.27	6.59	2.87	9.75	33	40.27	47	15.63	25
48,857	43	333,193	57	14.7	21	8.02	7.74	3.07	10.09	29	74.02	9	18.53	7
47,238	48	395,317	47	11.9	54	4.90	4.12	1.63	11.64	15	46.76	35	18.55	6
38,517	56	295,815	67	13.0	41	4.45	5.36	2.07	7.97	54	11.96	81	13.37	41
18,525	92	364,570	52	5.1	95	2.00	2.76	2.36	(1.63)	91	45.45	37	8.95	59
34,602	62	299,590	65	11.5	58	6.66	4.52	3.57	6.42	69	57.32	18	15.50	26
36,647	59	271,205	74	13.5	33	7.64	7.93	2.66	11.13	19	9.21	83	17.92	11
51,083	41	628,513	28	8.1	84	5.49	6.69	3.98	3.27	80	43.72	40	14.58	34
52,256	39	308,943	63	16.9	6	2.97	2.41	0.88	12.90	8	50.47	27	17.52	13
33,049	66	291,367	70	11.3	63	5.36	5.63	2.67	7.20	63	32.22	63	15.71	23
38,630	54	327,729	60	11.1§	65	4.69	5.11	2.32	7.27	60	52.43	24	6.57	68
47,510	46	271,493	73	17.5	3	8.79	5.47	4.36	7.26	61	61.27	15	5.91	70
41,545	52	347,260	54	12.0	53	4.47	4.57	2.25	7.12	65	38.64	53	13.61	38
24,514	85	284,970	71	8.6	82	3.96	4.79	1.73	8.65	48	35.87	57	16.98	14
51,535	40	328,741	58	15.7	10	4.23	3.60	1.32	12.31	13	34.16	60	15.33	28
34,916	60	328,573	59	10.6	71	3.66	4.82	1.68	8.08	53	42.48	41	—	
20,837	89	295,078	69	7.1	88	2.74	3.05	2.15	2.47	83	47.63	33	13.57	39
58,283	35	470,537	39	12.4	50	4.78	4.75	2.08	8.70	47	39.42	51	19.31	4
(15,665)	99	304,307	64	—		(1.10)	(1.66)	3.35	—		32.50	62	(11.29)	86
33,600	63	295,804	68	11.4	62	3.78	3.43	2.15	5.78	72	41.90	43	10.07	55
21,205	88	342,360	56	6.2	89	1.75	4.42	1.61	0.81	87	5.83	87	5.53	71
73,006	32	327,654	61	22.3	1	3.04	2.36	0.70	15.89	3	89.74	4	17.93	10
23,366	87	213,346	93	11.0	68	3.90	3.39	2.58	4.23	77	49.17	29	14.72	33
38,381	58	267,445	76	14.4	25	3.83	2.97	2.07	6.36	71	46.27	36	14.42	36
32,038	70	256,675	78	12.5	49	5.09	5.34	2.31	8.22	51	35.25	58	18.91	5
30,203	74	228,644	88	13.2	39	3.31	2.90	1.35	9.38	35	48.00	32	7.76	64
13,227	96	249,961	82	5.3	93	N.A.	N.A.	N.A.	—		—		—	
18,207	94	239,941	85	7.6	87	1.78	1.86	1.61	1.04	86	16.11	78	—	
29,331	76	266,140	77	11.0	67	4.53	4.17	1.91	8.99	43	40.90	45	16.39	19
25,960	81	223,603	91	11.6	57	7.04	6.61	3.27	7.97	55	75.69	8	20.07	2
26,138	79	181,791	100	13.6§	30	5.21	4.13	1.89	10.67	23	53.66	22	—	
38,462	57	241,309	84	15.9	9	4.45	5.88	1.37	12.48	11	8.16	84	20.41	1
26,434	78	243,200	83	10.9	69	2.40	2.19	1.03	8.83	46	20.16	72	13.49	40
31,765**	71	225,367	89	14.1	26	6.25**	1.79	1.93	12.47	12	133.29	1	12.29	47
30,165	75	199,285	96	15.0§	18	5.00	3.77	2.40	7.62	59	60.21	16	11.84	50
24,515	84	199,200	97	12.3	51	2.50	1.79	1.34	6.41	70	56.78	19	10.42	54
20,797**	90	211,885	94	9.8	76	5.49	0.46	4.91	1.12	85	82.16	6	12.71	45
27,261	77	297,762	66	9.2	81	N.A.	N.A.	N.A.	—		—		—	
32,279	69	255,533	81	12.6	45	4.72	5.06[21]	2.42[21]	6.92	67	29.20	64	—	
32,325	68	224,468	90	14.4	23	5.73	4.83	2.62	8.15	52	76.11	7	—	
31,381	72	231,766	87	13.5	31	4.22	3.93	1.55	10.53	26	23.06	71	14.43	35
32,392	67	239,611	86	13.5	32	3.81	3.04	1.38	10.68	21	65.98	13	—	
18,101	95	221,264	92	8.2	83	3.43	4.50	2.05	5.26	75	26.92	66	9.61	57
33,594	64	256,605	79	13.1	40	3.02	2.81	1.21	9.59	34	50.31	28	12.41	46
23,813	86	189,642	98	12.6	47	3.65	3.17	1.75	7.63	58	87.24	5	18.09	9
43,121	51	267,692	75	16.1	7	5.28	2.28	1.61	12.61	9	18.07	75	8.05	63
25,354	82	189,437	99	13.4	35	3.74	3.59	1.39	10.38	27	73.68	10	—	
26,100	80	200,581	95	13.0	42	2.82	2.80	1.95	3.76	78	42.37	42	4.96	72
33,072	65	255,925	80	12.2§	52	4.21	3.50	1.79	8.93	44	92.41	3	17.83	12
34,893	61	275,168	72	12.7	44	6.59	6.37	2.95	8.37	50	50.88	26	13.28	42
8,230,871		72,242,536												

THE 100 LARGEST DIVERSIFIED FINANCIAL COMPANIES RANKED BY ASSETS

RANK		COMPANY	ASSETS[1]	REVENUES[2]		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	1	**Federal National Mortgage Assoc.** (Washington, D.C.)	78,917,537	8,381,589	5	75,492	32	1,275,911	14
2	2	**Aetna Life & Casualty** (Hartford)	47,626,200	14,410,600	1	349,500	4	4,320,500	2
3	4	**American Express** (New York)	43,981,000	9,770,000	4	515,000	2	4,043,000	3
4	3	**CIGNA** (Philadelphia)	35,116,800	12,563,800	2	535,000	1	4,891,700	1
5	5	**Travelers Corp.** (Hartford)	32,875,800	12,002,100	3	312,400	7	3,058,000	4
6	6	**Merrill Lynch & Co.** (New York)	26,139,084	5,686,906	6	230,163	9	1,888,019	8
7	21	**Financial Corp. of America** (Los Angeles)[4]	22,700,448	1,827,100	21	172,458	13	924,982	18
8	7	**First Boston** (New York)	22,003,316	515,434	48	80,167	29	385,786	33
9	8	**H.F. Ahmanson** (Los Angeles)	20,226,213	2,213,357	16	107,974	23	924,423	19
10	10	**Great Western Financial** (Beverly Hills, Calif.)[5]	18,639,336	1,991,023	20	73,702	33	856,458	21
11	9	**American General Corp.** (Houston)[6]	15,061,300	3,953,400	10	317,500	6	2,034,100	7
12	•	**CalFed** (Los Angeles)	14,328,929	1,547,675	27	80,474	28	743,065	26
13	18	**E.F. Hutton Group** (New York)	13,164,272	2,171,950	17	110,583	21	587,382	28
14	12	**Loews** (New York)	11,510,204	5,378,872	7	341,242	5	1,688,383	10
15	13	**Lincoln National** (Fort Wayne, Ind.)	11,086,249	3,899,269	12	177,910	12	1,537,198	11
16	11	**Transamerica** (San Francisco)	10,952,010	4,681,182	8	198,424	10	1,814,266	9
17	16	**American International Group** (New York)	10,556,319	3,996,480	9	412,075	3	2,659,615	5
18	17	**Continental** (New York)	9,278,499	3,946,566	11	142,390	15	2,054,700	6
19	•	**Student Loan Marketing Assoc.** (Washington, D.C.)	9,118,552	904,343	35	66,601	35	502,617	31
20	20	**First Nationwide Financial** (San Francisco)[7,8]	8,494,650	909,423	34	31,014	48	307,663	39
21	19	**Golden West Financial** (Oakland, Calif.)	8,185,599	921,973	33	77,352	31	234,621	47
22	•	**First Federal of Michigan** (Detroit)	7,971,432	756,721	38	28,206‡	51	193,121	53
23	34	**Paine Webber** (New York)[9]	7,540,787	1,540,736	28	90,602	27	309,697	38
24	22	**Walter E. Heller International** (Chicago)[10]	7,112,338	3,074	100	(12,919)	96	328,155	36
25	23	**Kemper** (Long Grove, Ill.)	6,837,740	2,221,988	15	99,609	26	795,377	24
26	•	**Home Federal Savings & Loan Assoc.** (San Diego)	6,803,121	709,401	39	34,267	44	559,370	29
27	31	**City Federal Savings & Loan Assoc.** (Elizabeth, N.J.)	6,794,586	698,316	41	42,554	41	256,007	44
28	24	**Beneficial** (Wilmington, Del.)	6,716,300	1,581,900	25	105,600	24	825,000	22
29	27	**Imperial Corp. of America** (San Diego)	6,110,285	586,200	44	(34,934)	100	182,329	54
30	29	**Gibraltar Financial Corp. of Calif.** (Beverly Hills)	6,047,007	639,668	42	31,363	47	168,068	56
31	•	**Fleet Financial Group** (Providence)[11]	5,735,893	569,029	45	52,005	37	362,995	34
32	26	**St. Paul Companies** (Minn.)	5,594,723	2,321,386	14	135,973	18	1,286,712	13
33	25	**Donaldson Lufkin & Jenrette** (New York)	5,444,630	462,895	52	24,000	53	181,703	55
34	30	**General Re Corp.** (Greenwich, Conn.)	5,440,300	1,658,800	24	189,400	11	1,316,500	12
35	28	**U. S. Fidelity & Guaranty** (Baltimore)	5,279,174	2,386,894	13	276,196	8	1,223,170	15
36	36	**Capital Holding** (Louisville)	4,784,262	1,581,124	26	122,399	19	953,252	17
37	35	**American Financial** (Cincinnati)	4,771,462	2,041,508	18	167,002	14	304,351	40
38	•	**Carteret Savings & Loan Assoc.** (Morristown, N.J.)[9]	4,267,314	476,278	51	34,809	43	117,284	64
39	37	**Gibraltar Savings Association** (Houston)[9]	3,925,806	501,497	49	53,475	36	225,572	49
40	39	**Chubb** (Warren, N.J.)	3,539,520	1,761,303	22	79,692	30	782,494	25
41	•	**Florida Federal Savings & Loan Assoc.** (St. Petersburg)[12]	3,504,606	346,244	57	(4,798)	90	273,837	43
42	52	**United Financial Group** (Houston)[13]	3,503,649	334,741	59	(1,652)	83	68,788	73
43	40	**Reliance Group Holdings** (New York)	3,423,484	2,005,339	19	71,513	34	124,867	62
44	43	**SAFECO** (Seattle)	3,414,715	1,702,159	23	139,986	16	1,036,327	16
45	42	**Torchmark** (Birmingham, Ala.)	3,217,199	1,133,731	31	101,065	25	818,199	23
46	•	**First Federal Sav. & Loan Assoc. of Arizona** (Phoenix)	3,142,647	343,424	58	9,188	63	152,405	59
47	46	**American Savings & Loan Assoc. of Florida** (Miami)[9]	3,072,449	319,147	61	15,924	57	137,020	61
48	44	**Western Savings & Loan Assoc.** (Phoenix)	2,964,344	333,151	60	32,679**	45	93,036	66
49	•	**Farm & Home Savings Assoc.** (Nevada, Mo.)	2,694,555	278,234	64	(2,414)	86	163,487	57
50	45	**Combined International** (Northbrook, Ill.)	2,514,381	1,235,137	30	109,789	22	632,907	27

• Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[1] Total assets shown as of December 31, 1983, unless otherwise noted. Only assets of consolidated subsidiaries are included. Holding companies engaged in commercial banking or life insurance are listed here only when assets of these businesses represent less than 80% of the companies' total.

[2] Total revenues during the year, including any consolidated nonfinancial revenues from manufacturing, retailing, etc., and revenues from discontinued operations when published. All companies on the list must have derived more than 50% of their revenues from fi

NET INCOME AS PERCENT OF EQUITY		EMPLOYEES		EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
							1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
PERCENT	RANK	NUMBER	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
5.9	76	1,274	62	1.15	(1.72)**	2.76	(8.38)	55	(5.47)	67	8.47	48
8.1	69	52,500	2	3.31	4.72	2.47	2.96	45	6.14	56	9.06	44
12.7§	43	70,456	1	2.53	3.02	1.04	9.24	30	5.42	58	7.69	49
10.6§	57	42,218	4	7.03	6.73	3.32[3]	7.79	35	4.37	60	5.17	54
10.2	59	29,144	5	3.72	3.51	2.16	5.59	41	39.07	31	12.15	31
12.2	46	44,000	3	2.68	3.79	0.52	17.82	11	9.27	53	21.69	12
18.6	19	6,307	28	5.13	1.19	0.07	53.81	1	20.25	44	45.54	1
20.8	14	2,248	46	6.63	8.51	0.45	31.00	4	20.90	43	28.27	5
11.7	48	7,000	27	4.02	(1.86)	2.17	6.36	40	13.51	47	15.44	25
8.6	65	7,003	25	2.08	(2.75)	1.89**	0.94	50	(17.74)	73	9.17	43
15.5§	27	14,600	13	3.33	2.68	0.69	17.10	12	26.73	38	21.61	13
10.8	55	4,788	32	3.94	N.A.	N.A.	—		—		—	
18.8	17	15,824	10	4.42	3.46	0.28	32.00	3	19.20	45	38.19	2
20.2	15	23,100	8	12.30	7.24	1.78	21.32	6	30.80	36	28.35	4
11.6	50	12,539	15	4.10	2.82	2.00	7.42	38	52.51	20	11.52	36
10.9	53	28,800	6	3.12	2.95	1.34	8.82	31	39.64	30	20.36	17
15.5	28	24,100	7	5.56	5.22	0.89	20.05	10	2.34	63	10.30	40
6.7§	72	18,250	9	2.73	2.99	2.74	(0.05)	52	1.60	65	10.66	38
13.3	38	620	85	1.37	1.08	N.A.	—		—		—	
10.1	61	2,790	40	2.09	0.50**	N.A.	—		—		—	
33.0	5	2,114	47	3.75	(0.97)	0.55	21.09	8	41.98	26	21.26	14
14.6	31	1,437	56	2.85‡	N.A.	N.A.	—		—		—	
28.9§	10	11,161	17	5.53	2.53	(0.46)	—		(10.06)	70	31.64	3
—		1,908	50	(1.09)	1.34	2.25	—		32.50	34	1.74	56
12.5	44	15,000	11	6.82	6.61	1.71	14.84	19	10.40	51	19.74	18
6.1	74	3,317	37	1.59	N.A.	N.A.	—		—		—	
16.6	22	3,978	35	2.50	0.98	N.A.	—		25.35	39	—	
11.4§	52	13,200	14	3.96	(2.17)	3.40	1.54	48	45.92	23	10.59	39
—		1,711	53	(2.46)	(4.30)	1.81	—		(29.81)	75	7.31	50
18.7	18	1,738	52	1.94	(2.01)	0.88	8.21	34	5.06	59	13.20	28
14.3§	34	4,753	34	6.90	6.28	3.33	7.56	37	44.78	25	16.36	23
10.6	58	10,210	21	6.46	9.71	2.50	9.96	29	3.48	61	6.95	51
13.2	39	3,786	36	1.61	1.41	0.40	14.94	15	(10.40)	71	13.97	26
14.4	33	2,731	43	4.20	4.59	0.88	16.95	13	8.96	54	11.80	34
22.6	13	9,152	22	9.72	3.62	2.06	16.78	14	30.37	37	17.15	21
12.8	42	8,341	23	4.33	3.78	1.50	11.18	25	9.29	52	5.42	53
44.4§	1	5,500	30	N.A.	N.A.	N.A.	—		—		—	
29.7	8	1,350	59	N.A.	N.A.	N.A.	—		—		—	
23.7	12	723	77	6.19	(3.20)	N.A.	—		—		—	
10.2	60	7,600	24	6.46	5.94	3.92	5.12	42	44.88	24	8.58	47
—		1,436	57	N.A.	N.A.	N.A.	—		—		—	
—		840	74	(0.29)	(3.14)	N.A.	—		41.46	27	—	
32.8§	7	10,500	19	N.A.	N.A.	N.A.	—		—		—	
13.5	37	10,300	20	7.48	4.20	2.05	13.84	20	10.87	50	11.57	35
12.4	45	6,200	29	5.28	4.23	1.90	10.76	26	69.76	7	6.87	52
6.0	75	1,438	55	1.03	N.A.	N.A.	—		—		—	
11.6	49	946	68	2.37	(2.54)	N.A.	—		40.24	29	—	
35.1	3	1,170	64	6.03**	(9.76)	1.50	14.89	17	154.52	4	16.28	24
—		709	80	N.A.	N.A.	N.A.	—		—		—	
16.4§	23	14,654	12	3.33	2.80	1.60	7.60	36	52.94	17	23.67	10

nancial businesses and have a publicly traded stock.

[3] Figure is for Connecticut General.

[4] Company acquired First Charter Financial (1982 rank: No. 14) on August 5, 1983.

[5] Company acquired Financial Federation (1982 rank: No. 41) on July 18, 1983.

[6] Company acquired Gulf United (1982 rank: No. 38) on January 5, 1984.

[7] Name changed from FN Financial on July 11, 1983.

[8] Company is 82% owned by a subsidiary of National Intergroup (No. 132 on the FORTUNE 500).

[9] Figures are for fiscal year ending September 30, 1983.

[10] Name changed to Amerifin on January 26, 1984.

[11] Company was No. 69 among the 1982 Largest Commercial Banking Companies.

[12] Figures are for fiscal year ending June 30, 1983.

[13] Company acquired First American Financial of Texas (1982 rank: No. 57) on April 29, 1983.

THE 100 LARGEST DIVERSIFIED FINANCIAL COMPANIES RANKED BY ASSETS

RANK		COMPANY	ASSETS[1]	REVENUES[2]		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
51	50	**Financial Corp. of Santa Barbara** (Calif.)	2,463,467	218,041	71	(22,586)	98	24,132	100
52	48	**TRANSOHIO Financial** (Cleveland)	2,446,801	250,038	67	5,346**	73	66,002	77
53	49	**Guarantee Financial Corp. of Calif.** (Fresno)	2,394,143	253,794	66	1,885‡	78	62,035	81
54	●	**Valley Federal Savings & Loan Assoc.** (Van Nuys, Calif.)	2,272,291	241,269	68	1,640	79	75,116	69
55	47	**American Savings & Loan Assoc.** (Salt Lake City)	2,259,243	274,046	65	(7,184)	92	98,285	65
56	55	**Citadel Holding** (Glendale, Calif.)[14]	2,206,854	216,472	72	6,808	68	83,465	68
57	54	**Farmers Group** (Los Angeles)	2,040,870	789,869	37	137,685	17	917,459	20
58	51	**Broadview Financial** (Cleveland)	2,019,502	220,737	69	12,184**	60	36,191	93
59	88	**Beverly Hills Savings & Loan Assoc.** (Calif.)	1,957,843	165,569	81	(5,718)	91	36,672	91
60	65	**Freedom Savings & Loan Assoc.** (Tampa, Fla.)	1,905,588	187,010	76	(28,378)	99	42,936	89
61	59	**Downey Savings & Loan Assoc.** (Costa Mesa, Calif.)	1,872,053	195,433	74	3,602	75	36,328	92
62	●	**Great Lakes Fed. Sav. & Loan Assoc.** (Ann Arbor, Mich.)	1,779,564	193,013	75	4,516	74	69,549	72
63	60	**GEICO** (Washington, D.C.)	1,775,790	872,703	36	113,753	20	405,439	32
64	63	**Mercury Sav. & Loan Assoc.** (Huntington Beach, Calif.)[15]	1,760,094	182,110	79	10,859	61	30,513	98
65	●	**Dallas Federal Savings & Loan Assoc.**	1,744,347	183,083	77	(2,351)	85	65,233	78
66	58	**Ohio Casualty** (Hamilton)	1,677,567	946,022	32	51,462	38	531,500	30
67	62	**First Columbia Financial** (Englewood, Colo.)	1,613,128	219,534	70	2,176	77	44,183	88
68	68	**Far West Financial** (Newport Beach, Calif.)	1,518,691	149,000	84	5,627	71	51,600	85
69	66	**Citizens Savings Financial** (Miami)	1,506,033	178,537	80	5,378‡	72	33,657	94
70	67	**Sooner Federal Savings & Loan Assoc.** (Tulsa)[12]	1,429,030	155,605	82	373‡	82	68,484	74
71	74	**Monarch Capital** (Springfield, Mass.)	1,416,650	396,667	54	30,592	49	288,070	42
72	97	**Homestead Financial** (Burlingame, Calif.)	1,414,913	133,890	88	21,172	54	71,842	70
73	76	**Texas Federal Financial** (Dallas)[16]	1,404,383	151,669	83	7,080**	67	39,803	90
74	61	**Alexander & Alexander Services** (New York)	1,399,500	556,200	46	700**	81	235,200	46
75	●	**Fortune Fed. Sav. & Loan Assoc.** (Clearwater, Fla.)[9]	1,388,544	143,998	85	(4,744)	89	68,277	75
76	64	**Orbanco Financial Services** (Portland, Ore.)	1,353,737	182,286	78	(9,542)	94	85,840	67
77	71	**American Family** (Columbus, Ga.)	1,352,214	703,518	40	32,071	46	235,478	45
78	●	**United First Fed. Sav. & Loan Assoc.** (Sarasota, Fla.)[12]	1,302,718	142,081	86	(2,198)‡	84	63,253	80
79	●	**Bell National Corp.** (San Mateo, Calif.)	1,251,443	127,010	90	14,921	58	45,517	87
80	70	**Old Republic International** (Chicago)	1,221,159	407,744	53	50,636	39	301,753	41
81	69	**First Savings Assoc. of Wisconsin** (Milwaukee)	1,220,015	135,883	87	(10,858)	95	32,382	96
82	75	**Buckeye Financial** (Columbus, Ohio)	1,191,677	124,030	91	(8,367)	93	27,750	99
83	●	**Metropolitan Fed. Sav. & Loan Assoc. of Fargo** (N.D.)	1,188,674	132,792	89	8,280	65	55,231	83
84	72	**Hanover Insurance** (Worcester, Mass.)[17]	1,138,900	627,445	43	39,381	42	327,611	37
85	73	**Colonial Penn Group** (Philadelphia)	1,104,844	1,241,351	29	44,970	40	344,333	35
86	●	**First Southern Fed. Sav. & Loan Assoc.** (Mobile, Ala.)	1,098,449	121,035	92	(4,411)	88	47,045	86
87	86	**First Lincoln Financial** (Monterey Park, Calif.)	1,091,930	109,122	98	3,058	76	31,739	97
88	●	**Home Federal Savings & Loan Assoc.** (Tucson)	1,083,222	117,295	93	7,675	66	59,613	82
89	●	**Coast Federal Savings & Loan Assoc.** (Sarasota, Fla.)	1,081,749	111,185	95	(4,395)	87	71,617	71
90	89	**United States Leasing International** (San Francisco)	1,077,405	307,314	62	29,725	50	204,089	52
91	79	**Nevada Savings & Loan Association** (Las Vegas)	1,067,503	110,364	96	10,330	62	66,167	76
92	56	**Southland Financial** (Irving, Tex.)	1,061,885	356,583	56	20,217	55	223,762	50
93	82	**Mission Insurance Group** (Los Angeles)	1,023,375	483,167	50	(15,433)	97	215,702	51
94	81	**First Western Financial** (Las Vegas)	1,018,110	111,375	94	6,707‡	69	32,681	95
95	91	**Lomas & Nettleton Financial** (Dallas)[12]	1,012,278	205,539	73	27,481	52	145,377	60
96	77	**Frank B. Hall & Co.** (Briarcliff Manor, N.Y.)	970,373	365,175	55	12,495	59	156,435	58
97	87	**Fremont General** (Los Angeles)	931,061	533,960	47	1,236	80	122,571	63
98	●	**Security Capital** (New York)[9]	919,414	106,004	99	8,749**	64	63,779	79
99	84	**Liberty** (Greenville, S.C.)	883,926	294,338	63	17,640	56	232,598	48
100	92	**Nafco Financial Group** (Naples, Fla.)[9,18]	883,779	109,344	97	6,207	70	53,710	84
		TOTALS	685,327,755	146,943,316		7,036,452		57,332,423	

● Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[14] Company was formed as a holding company for Fidelity Federal

NET INCOME AS PERCENT OF EQUITY		EMPLOYEES		EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
							1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
PERCENT	RANK	NUMBER	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
—		720	78	(5.26)	(1.25)	1.10	—		58.54	15	9.18	42
8.1	68	881	72	1.41**	(6.41)	1.25	1.19	49	71.11	6	8.74	45
3.0	78	1,189	63	0.31‡	(0.45)	N.A.	—		1.96	64	—	
0.6§	80	894	70	0.17	N.A.	N.A.	—		—		—	
—		1,306†	60	(3.79)	(8.35)	1.84	—		—		—	
8.2	66	816	76	2.11	N.A.	N.A.	—		6.00	57	—	
15.0	29	12,431	16	4.06	3.77	1.01	14.93	16	22.30	41	13.11	29
33.7	4	674	82	3.91**	(8.55)	1.33	11.39	24	68.80	9	—	
—		532	89	(2.68)	1.35	N.A.	—		196.88	2	—	
—		1,303	61	(10.08)	(2.78)**	N.A.	—		(20.69)	74	—	
9.9	62	841	73	0.76	(0.94)	0.61	2.17	47	19.12	46	21.12	15
6.5	73	663	83	1.43	N.A.	N.A.	—		—		—	
28.1	11	4,776	33	5.38	2.39	(1.22)	—		36.85	32	5.10	55
35.6	2	886	71	2.49	(1.16)	0.36	21.24	7	52.25	21	—	
—		719	79	N.A.	N.A.	N.A.	—		—		—	
9.7	63	5,331	31	4.48	4.80	2.26	7.06	39	12.29	49	12.44	30
4.9	77	984	66	0.91	(3.42)	N.A.	—		—		—	
10.9	54	570	86	2.80	(9.24)‡	1.27**	8.23	33	170.65	3	18.40	20
16.0	24	821	75	3.38‡	1.06	N.A.	—		—		—	
0.5	81	424	92	0.20‡	(2.22)	N.A.	—		106.06	5	—	
10.6	56	1,846	51	3.49	2.55	1.54	8.53	32	52.06	22	20.49	16
29.5	9	540	88	5.00	2.02	0.08	51.78	2	—		—	
17.8	21	960	67	3.76**	(5.46)	N.A.	—		52.83	19	—	
0.3	82	10,650	18	0.03**	(1.03)‡	0.77	(27.71)	56	(8.87)	69	13.24	27
—		644	84	N.A.	N.A.	N.A.	—		—		—	
—		1,432	58	(3.29)	2.93	1.61	—		(6.67)	68	11.93	33
13.6	36	2,053	48	1.74	1.32	0.67	9.98	28	61.51	14	26.39	7
—		415	95	N.A.	N.A.	N.A.	—		—		—	
32.8	6	376	98	2.55	0.53	0.19	29.43	5	69.74	8	—	
15.8§	25	2,768	41	4.62	3.90	1.43	12.45	22	65.32	12	22.43	11
—		897	69	(8.69)	(9.04)	N.A.	—		63.64	13	—	
—		423	93	(4.58)	(4.62)**	N.A.	—		31.43	35	—	
15.0	30	400	97	4.10	N.A.	N.A.	—		—		—	
12.0	47	2,800	39	7.69	6.69	1.19	20.55	9	65.82	10	24.98	9
13.1	40	3,167	38	2.78	1.82	1.84	4.21	43	53.94	16	(3.77)	57
—		560	87	(1.46)	N.A.	N.A.	—		—		—	
9.6	64	350	99	1.27	(1.79)	0.47	10.41	27	366.67	1	26.64	6
12.9	41	421	94	2.73	N.A.	N.A.	—		—		—	
—		409	96	(0.25)	N.A.	N.A.	—		—		—	
14.6	32	1,480	54	4.12	3.52	1.31	12.14	23	2.66	62	10.10	41
15.6	26	473	90	2.02	1.25	0.50	14.87	18	13.46	48	—	
8.1§	67	1,067	65	1.10	1.55	1.01	0.89	51	52.89	18	8.73	46
—		2,251	45	(1.29)	3.78	0.49	—		(1.07)	66	19.42	19
18.3§	20	346	100	1.24	(0.80)	1.60	(2.53)	54	32.50	33	—	
18.9	16	2,592	44	3.82	3.02	1.15	12.76	21	21.90	42	25.52	8
8.0	70	7,000	26	1.02	2.07	1.05	(0.29)	53	(13.65)	72	11.34	37
1.0	79	2,017	49	0.11	0.64	N.A.	—		40.29	28	—	
13.7	35	679	81	1.33**	0.75	1.06	2.30	46	24.62	40	11.99	32
7.6	71	2,761	42	1.77	1.05	1.21	3.88	44	65.58	11	16.97	22
11.6	51	464	91	2.57	0.70	N.A.	—		7.13	55	—	
		654,466										

Savings & Loan Assoc. on December 13, 1983.

[15] Name changed from Mercury Savings on Aug. 1, 1983.

[16] Company was formed as a holding company for Texas Federal Savings & Loan Assoc. on May 17, 1983.

[17] Company is 51.5% owned by State Mutual of America (No. 31 among the Largest Life Insurance Companies).

[18] Company formed as a holding company for Naples Federal Savings & Loan Assoc. on June 20, 1983.

THE 50 LARGEST LIFE INSURANCE COMPANIES RANKED BY ASSETS

RANK 1983	RANK 1982	COMPANY	ASSETS[1] $ THOUSANDS	PREMIUM AND ANNUITY INCOME[2] $ THOUSANDS	RANK	NET INVESTMENT INCOME $ THOUSANDS	RANK
1	1	**Prudential** (Newark)*	72,248,810	9,514,847	1	4,265,237	2
2	2	**Metropolitan** (New York)*	60,598,562	5,947,671	2	4,749,002	1
3	3	**Equitable Life Assurance** (New York)*	43,305,559	1,102,684	16	2,580,860	3
4	4	**Aetna Life** (Hartford)[7]	31,414,088	3,693,699	4	1,588,435	6
5	5	**New York Life** *	24,228,095	3,554,362	5	1,811,404	4
6	6	**John Hancock Mutual** (Boston)*	23,458,537	2,397,284	7	1,394,447	8
7	7	**Travelers** (Hartford)[8]	20,741,507	3,976,185	3	1,713,995	5
8	8	**Connecticut General Life** (Bloomfield)[9]	17,425,833	3,036,377	6	1,157,902	9
9	9	**Teachers Insurance & Annuity** (New York)	16,143,856	1,641,832	11	1,551,249	7
10	10	**Northwestern Mutual** (Milwaukee)*	14,480,689	2,012,505	8	1,005,841	10
11	11	**Massachusetts Mutual** (Springfield)*	12,172,745	1,306,586	13	871,100	12
12	12	**Bankers Life** (Des Moines)*	11,358,456	1,961,454	9	903,663	11
13	13	**Mutual of New York** *	9,284,182	1,004,018	18	651,406	14
14	14	**New England Mutual** (Boston, Mass.)*	8,487,638	1,645,748	10	669,279	13
15	15	**Mutual Benefit** (Newark)*	7,898,157	1,135,331	15	630,582	15
16	16	**Connecticut Mutual** (Hartford)*	6,753,954	944,840	19	478,667	16
17	18	**State Farm Life** (Bloomington, Ill.)	4,979,900	944,221	20	384,565	17
18	17	**Lincoln National Life** (Fort Wayne, Ind.)[10]	4,681,607	1,051,476	17	321,848	19
19	20	**Continental Assurance** (Chicago)[11]	4,077,317	1,198,304	14	169,014	41
20	19	**Penn Mutual** (Philadelphia)*	3,960,275	357,801	42	268,677	21
21	23	**Nationwide Life** (Columbus, Ohio)	3,938,289	435,140	37	194,533	36
22	21	**Phoenix Mutual** (Hartford)*	3,808,291	630,858	27	264,032	22
23	25	**National Life & Accident** (Nashville)[12]	3,526,819	504,885	35	235,016	28
24	22	**Western & Southern Life** (Cincinnati)*	3,422,095	373,267	41	225,740	29
25	33	**Variable Annuity Life** (Houston)[12]	3,384,084	485,780	36	299,929	20
26	31	**IDS Life** (Minneapolis)[13]	3,378,855	597,578	30	261,121	23
27	36	**Executive Life** (Beverly Hills, Calif.)	3,372,382	608,800	29	343,028	18
28	24	**Pacific Mutual** (Newport Beach, Calif.)*	3,311,521	690,048	25	249,323	26
29	34	**Aetna Life & Annuity** (Hartford)[7]	3,136,166	511,103	34	153,172	43
30	27	**American National** (Galveston, Tex.)	2,944,498	404,148	38	199,977	33
31	28	**State Mutual of America** (Worcester, Mass.)*	2,921,537	578,344	31	223,464	30
32	29	**Franklin Life** (Springfield, Ill.)[14]	2,814,642	346,228	44	214,032	31
33	32	**Transamerica Occidental Life** (Los Angeles)[15]	2,811,914	1,429,310	12	170,518	40
34	30	**National Life** (Montpelier, Vt.)*	2,792,599	291,092	47	183,636	37
35	35	**Union Mutual** (Portland, Me.)*	2,737,203	557,509	32	237,519	27
36	38	**Minnesota Mutual Life** (St. Paul)*	2,556,397	517,758	33	177,412	38
37	39	**Guardian of America** (New York)*	2,524,209	819,140	22	205,036	32
38	37	**General American Life** (St. Louis)*	2,498,653	716,321	24	194,697	35
39	26	**National Investors Pension** (Little Rock)	2,468,048	119,479	50	253,762	24
40	•	**Capitol Life** (Denver)	2,402,806	633,040	26	148,808	47
41	44	**Northwestern National** (Minneapolis)	2,374,547	795,965	23	128,789	49
42	40	**United of Omaha Life**	2,367,633	353,097	43	197,279	34
43	42	**Home Life** (New York)*	2,228,200	392,073	39	154,439	42
44	43	**Provident Life & Accident** (Chattanooga, Tenn.)	2,206,882	877,132	21	140,048	48
45	41	**Provident Mutual** (Philadelphia)*	2,204,792	234,712	49	149,854	46
46	47	**Charter Security Life** (Chatham, N.J.)[16]	2,191,658	626,450	28	249,621	25
47	50	**Kemper Investors Life** (Chicago)[17]	2,051,543	337,756	45	174,080	39
48	•	**National Health & Welfare Mutual** (New York)*[18]	1,972,437	271,441	48	151,531	45
49	46	**Liberty National** (Birmingham, Ala.)[19]	1,958,740	316,531	46	102,414	50
50	48	**American United Life** (Indianapolis)*	1,935,354	377,223	40	152,819	44
		TOTALS	479,942,561	64,259,533		33,202,802	

Data for all companies are on the statutory accounting basis required by state insurance regulatory authorities.

• Not on last year's list.

N.A. Not available.

* Indicates a mutual company.

[1] As of December 31, 1983.

[2] Includes premium income from life, accident, and health policies, annuities, and from contributions to deposit administration funds.

[3] After dividends to policyholders and federal income taxes, excluding capital gains and losses. Figures in parentheses indicate a loss.

[4] Face value of all life policies as of December 31, 1983.

[5] Change between December 31, 1982, and December 31, 1983.

[6] Includes home office, field force, and full-time agents.

[7] Wholly owned by Aetna Life & Casualty (No. 2 on Diversified Fi-nancial list).

[8] Wholly owned by Travelers Corp. (No. 5 on Diversified Financial list).

[9] Wholly owned by CIGNA (No. 4 on Diversified Financial list).

NET GAIN FROM OPERATIONS[3]			LIFE INSURANCE IN FORCE[4]		INCREASE IN LIFE INSURANCE IN FORCE[5]				EMPLOYEES[6]	
	RANK									
$ THOUSANDS	MUTUAL	STOCK	$ THOUSANDS	RANK	$ THOUSANDS	RANK	PERCENT	RANK	NUMBER	RANK
187,623	1		509,963,512	1	27,655,523	1	5.7	32	59,347	1
37,926	10		450,908,885	2	24,280,107	2	5.7	33	40,000	3
56,468	3		238,425,689	3	10,078,169	8	4.4	35	22,836	4
259,240		1	198,734,099	4	18,590,573	4	10.3	22	16,611	8
54,154	5		172,050,634	5	20,975,502	3	13.9	15	19,320	6
31,900	12		153,182,732	6	6,180,253	13	4.2	36	19,977	5
154,877		4	130,630,639	8	(7,224,466)	49	—		42,996	2
249,432		2	104,804,346	9	8,140,262	11	8.4	26	10,512	10
37,629		11	12,544,006	42	1,642,290	30	15.1	10	2,133	40
49,414	6		92,622,381	11	13,281,662	5	16.7	7	7,265	16
72,516	2		61,574,596	13	4,075,322	25	7.1	29	9,808	11
13,891	17		52,251,774	15	5,071,771	16	10.8	21	7,230	17
32,431	11		51,548,474	17	5,757,004	14	12.6	19	7,538	14
48,070	7		40,916,608	20	4,603,293	22	12.7	18	7,618	13
40,110	9		51,816,886	16	642,294	37	1.3	40	4,610	22
45,125	8		40,251,365	21	5,035,287	18	14.3	12	5,827	20
121,248		5	73,657,948	12	9,141,184	9	14.2	13	17,329	7
167,030		3	103,513,639	10	11,988,776	7	13.1	17	4,196	25
12,612		15	35,231,590	26	4,808,484	19	15.8	9	N.A.	
10,786	19		21,596,818	29	598,370	39	2.9	38	3,438	30
17,700		14	15,906,047	37	770,872	36	5.1	34	6,355	19
10,762	20		49,001,338	18	6,961,138	12	16.6	8	3,285	32
72,210		8	19,686,431	33	(737,233)	46	—		6,776	18
54,227	4		19,267,903	34	2,465,958	28	14.7	11	7,404	15
(19,958)		23	4,082	49	(1,032)	42	—		999	43
9,418		17	12,749,940	41	(114,055)	44	—		4,408	24
1,958		19	21,683,012	28	12,323,133	6	131.6	1	450	45
30,775	13		20,641,727	30	1,127,082	33	5.8	31	2,487	39
(15,577)		21	12,347,625	43	3,200,693	27	35.0	2	3,257	33
47,474		10	19,827,459	32	(221,991)	45	—		8,667	12
17,193	16		22,119,394	27	4,163,600	24	23.2	5	3,243	34
78,173		6	19,181,498	35	1,458,796	31	8.2	27	3,370	31
48,194		9	150,684,561	7	5,051,164	17	3.5	37	5,776	21
9,216	22		14,641,456	38	3,263,181	26	28.7	4	2,570	38
22,581	15		4,935,683	45	(1,611,688)	47	—		2,801	36
11,462	18		54,619,838	14	4,778,304	21	9.6	24	3,581	28
6,075	24		38,822,877	23	9,034,127	10	30.3	3	3,509	29
10,261	21		37,270,112	24	4,524,570	23	13.8	16	2,772	37
(77,971)		24	—		—		—		—	
(17,103)		22	6,953,322	44	(7,023,245)	48	—		294	46
5,744		18	36,720,615	25	5,669,245	15	18.3	6	4,596	23
19,046		13	39,276,131	22	4,801,969	20	13.9	14	12,541	9
2,950	25		18,147,773	36	1,053,600	35	6.2	30	2,934	35
72,756		7	41,705,389	19	618,971	38	1.5	39	4,150	26
29,214	14		14,567,213	39	1,092,285	34	8.1	28	2,125	41
(10,140)		20	157,015	48	(30,058)	43	—		200	47
11,406		16	221,925	47	22,874	41	11.5	20	110	48
2,544	26		1,998,788	46	155,262	40	—		548	44
29,012		12	13,753,407	40	1,225,939	32	9.8	23	3,916	27
7,612	23		20,407,936	31	1,746,425	29	9.4	25	1,163	42
2,169,696			3,323,527,118		241,091,546				412,878	

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[10] Wholly owned by Lincoln National (No. 15 on Diversified Financial list).

[11] Wholly owned by a subsidiary of Loews (No. 14 on Diversified Financial list).

[12] Wholly owned by American General (No. 11 on Diversified Financial list).

[13] Wholly owned by American Express (No 3. on Diversified Financial list).

[14] Wholly owned by American Brands (No. 79 on the FORTUNE 500).

[15] Wholly owned by Transamerica (No. 16 on Diversified Financial list).

[16] Wholly owned by Charter (No. 61 on the FORTUNE 500).

[17] Wholly owned by Kemper (No. 25 on Diversified Financial list).

[18] Name changed to Mutual of America on January 1, 1984.

[19] Wholly owned by Torchmark (No. 45 on Diversified Financial list).

THE 50 LARGEST RETAILING COMPANIES RANKED BY SALES

RANK		COMPANY	SALES[1]	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	1	**Sears Roebuck** (Chicago)[2]	**35,882,900**	**46,176,100**	1	**1,342,200**	1	**9,786,900**	1
2	3	**K mart** (Troy, Mich.)	**18,597,900**	**8,183,100**	3	**492,300**	2	**2,940,100**	3
3	2	**Safeway Stores** (Oakland, Calif.)[2]	**18,585,217**	**4,174,363**	6	**183,303**	13	**1,390,354**	9
4	4	**Kroger** (Cincinnati)[2,3]	**15,236,013**	**3,502,278**	11	**127,079**	17	**1,072,852**	14
5	5	**J.C. Penney** (New York)	**12,078,000**	**7,438,000**	4	**467,000**	3	**3,559,000**	2
6	11	**Southland** (Dallas)[2]	**8,772,067**	**3,309,455**	12	**131,768**	15	**1,074,962**	13
7	8	**Federated Department Stores** (Cincinnati)	**8,689,579**	**4,901,346**	5	**338,342**	5	**2,333,380**	4
8	6	**Lucky Stores** (Dublin, Calif.)	**8,388,155**	**1,713,206**	20	**105,400**	23	**573,619**	25
9	9	**American Stores** (Salt Lake City)	**7,983,677**	**1,626,695**	23	**117,902**	19	**451,694**	31
10	7	**Household International** (Prospect Heights, Ill.)[2]	**7,911,900**	**8,446,000**	2	**206,400**	9	**1,429,600**	8
11	10	**Winn-Dixie Stores** (Jacksonville, Fla.)[5]	**7,018,605**	**1,158,666**	31	**113,460**	22	**582,823**	24
12	14	**Dayton Hudson** (Minneapolis)	**6,963,255**	**3,586,411**	10	**245,457**	8	**1,540,179**	7
13	15	**Montgomery Ward** (Chicago)[2,6]	**6,003,000**	**4,149,000**	7	**54,000**	37	**1,654,000**	6
14	16	**Jewel Companies** (Chicago)	**5,723,522**	**1,562,195**	25	**83,053**	26	**618,956**	23
15	17	**BATUS** (Louisville)[2,7]	**5,523,191**	**3,903,125**	8	**258,560**	7	**1,209,488**	10
16	12	**F.W. Woolworth** (New York)	**5,456,000**	**2,364,000**	16	**118,000**	18	**1,030,000**	15
17	21	**Wal-Mart Stores** (Bentonville, Ark.)	**4,743,744**	**1,652,254**	21	**196,244**	10	**737,503**	21
18	13	**Great Atlantic & Pacific Tea** (Montvale, N.J.)[8]	**4,607,817**	**1,087,395**	32	**31,211****	45	**329,372**	40
19	19	**Albertson's** (Boise)	**4,279,331**	**935,660**	33	**70,281**	29	**391,847**	34
20	20	**May Department Stores** (St. Louis)	**4,229,400**	**2,844,900**	13	**187,000**	11	**1,158,500**	11
21	22	**Melville** (Harrison, N.Y.)[2]	**3,923,220**	**1,492,553**	27	**176,260**	14	**828,041**	19
22	25	**Associated Dry Goods** (New York)	**3,717,827**	**2,003,876**	18	**115,520**	20	**916,006**	18
23	24	**Allied Stores** (New York)	**3,675,873**	**2,530,375**	14	**128,471**	16	**964,280**	17
24	26	**Carter Hawley Hale Stores** (Los Angeles)	**3,632,662**	**2,028,818**	17	**67,485**	31	**783,533**	20
25	18	**Grand Union** (Elmwood Park, N.J.)[9]	**3,519,341**	**764,539**	40	**226**	48	**208,479**	45
26	23	**Supermarkets General** (Woodbridge, N.J.)	**3,517,548**	**750,900**	42	**40,674**	42	**241,595**	44
27	27	**R.H. Macy** (New York)[10]	**3,468,144**	**1,893,443**	19	**186,678**	12	**971,442**	16
28	29	**ARA Services** (Philadelphia)[11]	**3,056,593**	**1,336,171**	29	**53,688**	38	**550,806**	28
29	32	**Marriott** (Bethesda, Md.)[2]	**3,036,703**	**2,501,428**	15	**115,245**	21	**628,204**	22
30	30	**McDonald's** (Oak Brook, Ill.)[2]	**3,001,148**	**3,727,307**	9	**342,640**	4	**1,755,141**	5
31	31	**Wickes Companies** (Santa Monica, Calif.)	**2,875,085**	**1,638,945**	22	**24,794**	46	**(207,680)**	50
32	33	**Publix Super Markets** (Lakeland, Fla.)[2]	**2,835,440**	**540,555**	47	**56,669**	35	**339,181**	39
33	35	**Stop & Shop Companies** (Boston)	**2,790,799**	**801,558**	39	**50,801**	39	**284,611**	42
34	36	**Zayre** (Framingham, Mass.)	**2,613,667**	**908,005**	35	**61,426**	34	**395,457**	33
35	39	**Tandy** (Fort Worth)[5]	**2,475,188**	**1,581,908**	24	**278,521**	6	**1,120,872**	12
36	38	**Walgreen** (Deerfield, Ill.)[12]	**2,360,614**	**718,022**	43	**69,789**	30	**351,705**	38
37	34	**Rapid-American** (New York)	**2,340,000**	**1,553,000**	26	**56,444**	36	**96,800**	49
38	37	**Jack Eckerd** (Clearwater, Fla.)[10]	**2,325,044**	**864,885**	37	**71,731**	28	**568,292**	26
39	42	**Best Products** (Richmond, Va.)	**2,081,328**	**1,213,412**	30	**37,087**	44	**422,749**	32
40	●	**Trans World** (New York)[2,13]	**1,889,233**	**1,473,048**	28	**(7,663)****	49	**556,688**	27
41	41	**Giant Food** (Landover, Md.)[8]	**1,852,134**	**451,170**	49	**37,213**	43	**161,557**	46
42	43	**Revco D.S.** (Twinsburg, Ohio)[14]	**1,792,756**	**597,862**	46	**66,470**	33	**372,195**	37
43	45	**Mercantile Stores** (Wilmington, Del.)	**1,625,958**	**928,426**	34	**83,222**	25	**526,558**	29
44	44	**Waldbaum** (Central Islip, N.Y.)[2]	**1,586,895**	**314,214**	50	**13,940**	47	**115,411**	48
45	48	**U.S. Shoe** (Cincinnati)	**1,507,773**	**670,263**	44	**75,221**	27	**390,242**	35
46	46	**Brown Group** (St. Louis)[15]	**1,500,504**	**645,415**	45	**67,199**	32	**389,821**	36
47	50	**Service Merchandise** (Nashville)[2]	**1,458,098**	**756,069**	41	**44,869**	41	**251,971**	43
48	●	**Lowe's Companies** (North Wilkesboro, N.C.)	**1,430,576**	**520,910**	48	**50,615**	40	**291,505**	41
49	47	**Evans Products** (Portland, Ore.)[2]	**1,352,114**	**871,674**	36	**(63,875)**	50	**149,636**	47
50	●	**Toys "R" Us** (Rochelle Park, N.J.)	**1,319,642**	**820,228**	38	**92,317**	24	**459,723**	30
		TOTALS	**271,235,180**	**149,613,128**		**7,262,637**		**48,749,950**	

● Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[1] Net sales include operating revenues from non-retail activities and revenues from discontinued operations when they are published. All figures are for the fiscal year ending January 31, 1984, unless otherwise noted. Sales of subsidiaries are included when they are consolidated. All companies on the list must have derived more than 50% of their revenues from retail operations.

[2] Figures are for fiscal year ending December 31, 1983.

[3] Company acquired Dillon Companies (1982 rank: No. 28) on January 25, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
450,000	1	3.7	15	13.7	31	3.80	2.46	2.16	5.79	36	28.15	20	4.34	39
250,000	2	2.7	24	16.7	23	3.80	2.06	1.15	12.70	24	55.95	6	3.08	42
162,088	4	1.0	42	13.2	34	3.26	3.05	1.67	6.89	35	18.80	28	9.68	33
161,986	5	0.8	46	11.8	40	2.77	4.84	1.11	9.58	30	(1.18)	43	21.72	18
175,000	3	3.9	13	13.1	35	6.25	5.35	3.19	6.96	34	21.44	26	2.16	43
60,800	22	1.5	37	12.3	38	3.26	3.02	0.77	15.53	18	26.52	22	18.48	22
123,700	7	3.9	12	14.5	29	6.96	4.79	2.57	10.48	29	18.10	31	11.36	30
65,000	18	1.3	40	18.1§	15	2.05	1.80	0.85	9.15	32	14.49	37	12.38	29
60,000†	23	1.5	38	23.6§	4	3.61	2.69	0.32[4]	27.24	4	84.76	1	34.06	6
77,000	13	2.6	25	14.4	30	3.68	2.06	0.96	14.38	22	55.96	5	13.58	28
66,500	17	1.6	36	19.5	11	4.54	4.18	1.59	11.06	28	13.11	38	10.58	31
100,000†	11	3.5	18	15.9	26	2.54	2.14	0.42	19.58	8	15.15	36	35.08	5
78,500†	12	0.9	43	3.3	46	N.A.	N.A.	N.A.	—		—		—	
36,600	30	1.5	39	13.4	32	6.36	6.82	3.23	7.00	33	(0.11)	42	14.99	24
64,000†	19	4.7	7	21.4	6	N.A.	N.A.	N.A.	—		—		—	
114,600	9	2.2	28	11.5	41	3.72	(11.71)	3.15	1.68	39	42.71	9	14.44	27
62,000	21	4.1	11	26.5§	2	1.40	0.91	0.06	37.46	2	56.90	4	47.76	2
40,000	27	0.6	47	9.5	43	0.83**	(2.72)**	(2.06)	—		48.48	7	4.33	40
34,000	33	1.6	35	17.9	16	2.15	1.90	0.36	19.48	9	17.25	33	26.17	12
70,200	15	4.4	10	16.1§	25	6.84	4.87	2.11	12.50	25	18.21	30	19.26	20
68,143	16	4.5	8	21.3§	7	3.36	2.73	0.61	18.51	11	1.67	41	25.32	14
59,000	24	3.1	20	12.6	37	5.95	4.31	3.45	5.60	37	36.46	15	14.77	26
62,000†	20	3.5	19	13.3§	33	6.15	4.41	1.99	11.94	26	29.97	19	22.87	17
58,000	25	1.9	31	8.6	45	1.93	1.55	2.15	(1.07)	41	58.21	3	6.07	37
30,800	38	0.0	48	0.1	47	N.A.	N.A.	N.A.	—		—		—	
35,000	32	1.2	41	16.8	22	2.30	2.19	0.46**	17.33	15	27.92	21	25.58	13
49,000†	26	5.4	4	19.2	12	3.72	2.74	0.70	18.26	13	30.37	18	33.90	7
116,000†	8	1.8	34	9.7	42	4.51	3.86**	3.41	2.83	38	48.36	8	3.26	41
109,400	10	3.8	14	18.3	14	4.15	3.46	0.65	20.33	6	22.41	25	15.75	23
127,000†	6	11.4	1	19.5	10	5.74	5.00	0.87	20.72	5	18.38	29	7.22	36
27,900	41	0.9	45	—		1.72	(17.12)	1.74	(0.13)	40	25.81	23	(2.30)	44
34,000	34	2.0	30	16.7	24	1.17	0.94	N.A.	—		—		—	
35,000	31	1.8	32	17.8	18	4.73	3.43	1.12	15.45	19	78.72	2	29.67	11
38,000	28	2.4	27	15.5	28	3.51	2.37	0.77	16.43	16	41.83	10	35.27	4
32,000	37	11.3	2	24.8	3	2.67	2.17	0.11	37.57	1	(14.53)	44	47.35	3
32,300	35	3.0	23	19.8	9	2.28	1.86	0.53	15.76	17	38.55	12	33.66	8
37,000	29	2.4	26	58.3	1	N.A.	N.A.	N.A.	—		—		—	
32,000	36	3.1	21	12.6	36	1.91	1.90	0.79	9.18	31	16.59	34	7.93	35
18,000	44	1.8	33	8.8	44	1.40	1.63	0.28	17.65	14	7.07	40	25.15	15
71,000	14	—		—		(1.37)**	0.25	3.25	—		37.72	13	9.47	34
15,100	45	2.0	29	23.0	5	2.53	1.14	0.47	18.33	12	37.63	14	31.95	10
22,100	42	3.7	16	17.9	17	2.13	1.61	0.37	19.24	10	30.67	17	20.48	19
20,000†	43	5.1	5	15.8	27	5.65	4.74	1.47	14.43	21	20.95	27	14.97	25
7,000	50	0.9	44	12.1	39	2.66	3.14	0.66	15.04	20	(22.08)	45	19.22	21
28,000	40	5.0	6	19.2§	13	3.41	2.71	0.56	19.80	7	39.75	11	33.31	9
28,000	39	4.5	9	17.2	21	3.20	2.77	1.10	11.24	27	17.55	32	23.51	16
14,400†	48	3.1	22	17.8	19	1.49	1.20	0.11	29.57	3	15.73	35	48.59	1
8,715	49	3.5	17	17.4	20	1.40	0.75	0.40	13.35	23	9.23	39	10.02	32
15,094	47	—		—		(5.00)	(5.13)	1.65	—		24.78	24	5.95	38
15,100	46	7.0	3	20.1	8	1.62	1.17	N.A.	—		32.52	16	—	
3,497,026														

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[4] Figure is for Skaggs.
[5] Figures are for fiscal year ending June 30, 1983.
[6] Company is wholly owned by Mobil (No. 3 on the FORTUNE 500).
[7] Company is wholly owned by BAT Industries (No. 17 among the 1982 Largest Industrial Corporations Outside the U.S.).
[8] Figures are for fiscal year ending February 26, 1983.
[9] Figures are for fiscal year ending April 2, 1983.
[10] Figures are for fiscal year ending July 30, 1983.
[11] Figures are for fiscal year ending September 30, 1983.
[12] Figures are for fiscal year ending August 31, 1983.
[13] Company was No. 3 among the 1982 Largest Transportation Companies.
[14] Figures are for fiscal year ending May 28, 1983.
[15] Figures are for fiscal year ending October 29, 1983.

THE 50 LARGEST TRANSPORTATION COMPANIES RANKED BY OPERATING REVENUES

RANK		COMPANY	OPERATING REVENUES[1]	ASSETS		NET INCOME[2]		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	11	**Santa Fe Southern Pacific** (Chicago)[3]	**6,273,400**	**11,387,800**	1	**739,900**	1	**5,740,800**	1
2	1	**UAL** (Elk Grove, Ill.)	**6,021,840**	**5,133,643**	5	**142,045**	11	**1,592,416**	5
3	2	**United Parcel Service** (Greenwich, Conn.)	**6,015,210**	**2,575,793**	12	**489,802**	2	**1,370,003**	7
4	4	**CSX** (Richmond, Va.)	**5,786,700**	**10,834,600**	3	**271,600**	8	**4,526,400**	2
5	6	**AMR** (Fort Worth)	**4,763,307**	**4,728,165**	6	**227,867**	9	**1,424,627**	6
6	5	**Burlington Northern** (Seattle)[5]	**4,508,217**	**10,901,059**	2	**413,246**	3	**3,771,128**	4
7	7	**Eastern Air Lines** (Miami)	**3,942,134**	**3,757,708**	7	**(183,667)**	49	**176,876**	34
8	8	**Pan American World Airways** (New York)	**3,789,381**	**2,910,526**	9	**(51,025)****	44	**432,114**	18
9	9	**Delta Air Lines** (Atlanta)[6]	**3,616,413**	**3,246,960**	8	**(86,730)**	46	**897,160**	9
10	•	**Trans World Airlines** (New York)[7]	**3,354,305**	**2,738,523**	11	**(12,372)****	42	**719,252**	11
11	10	**Norfolk Southern** (Norfolk, Va.)	**3,148,047**	**8,171,884**	4	**356,465**	4	**4,174,250**	3
12	13	**Northwest Airlines** (St. Paul)	**2,196,036**	**1,602,236**	16	**50,073**	18	**854,189**	10
13	15	**Republic Airlines** (Minneapolis)	**1,511,494**	**1,108,672**	23	**(111,031)**	47	**(22,381)**	48
14	14	**Tiger International** (Los Angeles)	**1,447,111**	**1,113,766**	22	**(222,840)****	50	**84,536**	40
15	18	**USAir** (Washington, D.C.)	**1,432,264**	**1,318,397**	18	**80,644**	14	**615,128**	12
16	19	**Consolidated Freightways** (Palo Alto, Calif.)	**1,355,095**	**990,443**	27	**65,464**	15	**542,114**	14
17	17	**Sohio Pipe Line** (Cleveland)[10]	**1,299,849**	**2,882,692**	10	**339,202**	5	**(38,457)**	49
18	21	**Leaseway Transportation** (Cleveland)	**1,266,692**	**901,231**	28	**37,263**	22	**290,350**	27
19	20	**Roadway Services** (Akron, Ohio)	**1,252,980**	**812,373**	30	**99,205**	12	**528,815**	15
20	16	**Texas Air** (Houston)	**1,246,215**	**1,177,959**	20	**(177,864)**	48	**(49,649)**	50
21	22	**Western Air Lines** (Los Angeles)	**1,142,562**	**812,164**	31	**(54,485)****	45	**86,660**	39
22	23	**Yellow Freight System** (Overland Park, Kans.)	**1,089,015**	**564,531**	39	**49,185**	19	**249,576**	30
23	27	**Federal Express** (Memphis)[11]	**1,008,087**	**991,717**	26	**88,933**	13	**503,794**	16
24	30	**Piedmont Aviation** (Winston-Salem, N.C.)	**942,503**	**1,034,919**	24	**25,539**	29	**279,189**	28
25	24	**Illinois Central Gulf Railroad** (Chicago)[12]	**908,670**	**1,935,260**	15	**(7,502)**	40	**951,017**	8
26	25	**ARCO Pipe Line** (Independence, Kans.)[13]	**895,332**	**2,081,670**	13	**290,457**	7	**606,744**	13
27	26	**Exxon Pipeline** (Houston)[14]	**890,345**	**2,024,288**	14	**325,572**	6	**380,008**	20
28	28	**Chicago & North Western Transportation** (Chicago)	**859,902**	**1,258,919**	19	**33,819**	23	**291,730**	26
29	29	**Purolator** (Piscataway, N.J.)	**821,251**	**378,691**	40	**31,785**	25	**207,786**	32
30	•	**McLean Industries** (New York)	**784,477**	**1,133,011**	21	**26,552**	27	**271,066**	29
31	•	**American President Companies** (Oakland, Calif.)	**765,808**	**789,682**	33	**26,350**	28	**335,466**	23
32	31	**Emery Air Freight** (Wilton, Conn.)	**682,964**	**322,804**	41	**24,986**	30	**118,476**	37
33	33	**Frontier Holdings** (Denver)	**584,654**	**571,032**	38	**(13,772)**	43	**189,243**	33
34	32	**BP Pipelines** (New York)[15]	**546,758**	**1,377,115**	17	**162,740**	10	**165,278**	35
35	34	**PSA** (San Diego)	**530,801**	**867,917**	29	**(9,359)**	41	**226,527**	31
36	36	**Arkansas Best** (Fort Smith, Ark.)	**467,726**	**207,255**	44	**8,121****	34	**64,235**	42
37	39	**Alexander & Baldwin** (Honolulu)	**453,224**	**744,625**	35	**53,069**	16	**396,609**	19
38	46	**Southwest Airlines** (Dallas)	**448,236**	**587,258**	37	**40,867**	21	**314,556**	25
39	37	**Allied Van Lines** (Broadview, Ill.)	**440,286**	**62,955**	50	**4,343**	37	**21,188**	46
40	35	**Tidewater** (New Orleans)[16]	**431,792**	**721,743**	36	**51,462**	17	**329,093**	24
41	38	**Ozark Air Lines** (St. Louis)	**429,002**	**295,839**	42	**1,953**	39	**112,578**	38
42	40	**Kansas City Southern Industries** (Mo.)	**404,931**	**772,961**	34	**41,837**	20	**365,222**	21
43	43	**United Van Lines** (Fenton, Mo.)	**396,202**	**66,374**	49	**2,446**	38	**20,675**	47
44	41	**Chicago Milwaukee St. Paul & Pacific RR** (Chicago)	**381,139**	**1,013,962**	25	**18,363**	31	**336,522**	22
45	44	**Mayflower** (Carmel, Ind.)	**379,251**	**114,995**	48	**7,636**	35	**53,291**	44
46	45	**Rio Grande Industries** (Denver)	**349,785**	**805,754**	32	**32,562****	24	**488,245**	17
47	•	**Overnite Transportation** (Richmond, Va.)	**340,845**	**215,511**	43	**28,512**	26	**154,927**	36
48	•	**Carolina Freight** (Cherryville, N.C.)	**340,318**	**162,997**	45	**11,574**	32	**61,082**	43
49	•	**Airborne Freight** (Seattle)	**334,777**	**127,477**	46	**8,931**	33	**68,458**	41
50	•	**American Carriers** (Overland Park, Kans.)	**332,368**	**122,591**	47	**7,432**	36	**43,916**	45
		TOTALS	**82,609,701**	**100,460,447**		**3,787,155**		**35,322,828**	

• Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see reference to "employees" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[1] Consolidated operating revenues include those from non-transportation activities and sales from discontinued operations when these are published. All figures are for the year ending December 31, 1983, unless otherwise noted. All companies must derive more than 50% of their operating revenues from carrier operations and file public financial statements.

[2] Net income for all railroads has been calculated according to generally accepted accounting principles.

[3] Formed by merger of Santa Fe Industries (1982 rank: No. 11) and Southern Pacific (1982 rank: No. 12) on December 23, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
		OPERATING REVENUES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
73,312	2	11.8	6	12.9	21	3.93	1.72[4]	1.11[4]	13.51	12	45.38	14	16.27	17
58,000†	4	2.4	32	8.9§	30	3.88	1.03**	2.03	6.69	23	10.53	24	6.99	29
124,200	1	8.1	15	35.8	4	2.90	1.97	N.A.	—		—		—	
60,900	3	4.7	21	6.0§	35	2.07	2.70	1.29	4.88	25	51.06	12	18.68	12
42,500	6	4.8	20	15.3§	15	4.79	(1.00)	(1.69)	—		45.96	13	16.24	18
49,486	5	9.2	11	10.7§	28	5.40	3.69	1.00	18.34	7	89.48	7	18.40	14
37,100	9	—		—		(7.19)	(3.82)	(2.73)	—		(18.75)	31	2.16	33
27,845	10	—		—		(0.58)**	(6.30)	(0.64)	—		124.14	4	7.01	28
37,553	8	—		—		(2.18)	0.52	1.66	—		(8.36)	29	9.46	26
26,200	11	—		—		(0.99)**	N.A.	N.A.	—		—		—	
37,730†	7	11.3	8	8.5	32	5.67	6.57	2.92[8]	6.85	21	20.41	23	16.15	20
14,187	18	2.3	33	5.9	36	2.19	0.23	2.40	(0.91)	27	(3.09)	27	11.13	25
14,246	17	—		—		(4.28)	(1.99)	0.52[9]	—		(52.38)	38	6.21	31
10,310	24	—		—		(12.34)**	(8.04)	2.70	—		(32.35)	34	(9.01)	35
11,899	20	5.6	17	13.1	18	3.49	3.35	0.98**	13.54	11	(4.15)	28	18.90	11
18,100	13	4.8	18	12.1	24	4.85	4.08	0.74	20.68	6	24.00	21	19.01	10
174	49	26.1	4	—		N.A.	N.A.	N.A.	—		—		—	
16,000†	15	2.9	29	12.8	22	3.12	2.22	1.62	6.75	22	3.85	26	16.47	16
19,000	12	7.9	16	18.8	9	4.94	3.83	1.29	14.38	10	22.97	22	8.68	27
6,800	28	—		—		(14.58)	(7.27)	0.05**	—		(37.26)	36	13.85	23
10,355†	23	—		—		(3.60)	(3.56)	1.35	—		(19.05)	32	(3.63)	34
15,550†	16	4.5	22	19.7	7	3.46	0.75	1.25	10.67	16	130.95	2	11.36	24
12,507†	19	8.8	13	17.5§	11	4.07	3.70	N.A.	—		24.58	20	—	
10,500	22	2.7	30	9.1	29	2.28	3.20	1.12	7.32	20	25.00	19	29.43	4
9,806	25	—		—		N.A.	N.A.	N.A.	—		—		—	
915	45	32.4	2	47.9	3	N.A.	N.A.	N.A.	—		—		—	
761	47	36.6	1	85.7	2	N.A.	N.A.	N.A.	—		—		—	
10,929†	21	3.9	23	11.6	26	2.28	(1.43)	1.38	5.15	24	100.00	6	—	
17,202	14	3.9	24	15.3	14	4.56	4.36	1.87	9.30	17	26.95	17	16.15	19
2,850	43	3.4	28	8.7§	31	0.65	1.60	N.A.	—		—		—	
3,000	42	3.4	26	7.9	33	2.33	4.27	(3.05)	—		—		—	
4,900	32	3.7	25	21.1	5	1.45	0.65	0.69	7.71	19	67.20	9	2.69	32
5,605	30	—		—		(1.33)	1.72	0.92**	—		(39.96)	37	15.40	22
5	50	29.8	3	98.5	1	N.A.	N.A.	N.A.	—		—		—	
3,965	37	—		—		(2.95)	3.56	0.16	—		(27.02)	33	16.89	15
7,173	27	1.7	36	12.6	23	2.08**	(2.85)	(0.29)**	—		198.59	1	23.61	9
3,600	38	11.7	7	13.4	17	2.88	2.18	0.86	12.85	13	62.78	10	24.49	8
3,462	40	9.1	12	13.0	20	1.40	1.28	0.01**	60.77	1	28.00	16	62.36	1
880	46	1.0	37	20.5	6	4.14	1.71	0.60	21.31	5	—		—	
4,300	34	11.9	5	15.6	13	3.07	4.12	0.68	16.33	8	(12.04)	30	6.97	30
3,981	36	0.5	39	1.7	38	0.17	0.77	(0.03)	—		(32.58)	35	15.74	21
4,000†	35	10.3	9	11.5	27	4.11	3.35	0.26	31.54	2	26.24	18	39.18	2
660	48	0.6	38	11.8	25	418.00	378.00	57.02	22.04	4	—		—	
4,944	31	4.8	19	5.5	37	8.42	2.59	3.67	8.66	18	61.67	11	27.02	7
1,378	44	2.0	35	14.3	16	2.34	1.65	0.18	29.58	3	34.82	15	—	
3,520	39	9.3	10	6.7	34	3.29**	3.45	2.49	2.83	26	6.44	25	18.66	13
7,303	26	8.4	14	18.4	10	2.10	1.36	0.63	12.71	14	80.76	8	29.39	5
6,016	29	3.4	27	18.9	8	2.12	2.60	0.52	15.09	9	129.84	3	31.81	3
3,100	41	2.7	31	13.0	19	1.60	0.77	0.53	11.61	15	112.98	5	27.91	6
4,850†	33	2.2	34	16.9	12	1.83	0.15	N.A.	—		—		—	
853,559														

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[4] Figure is for Santa Fe Industries.

[5] Company acquired El Paso (No. 32 among the 1982 Largest Utilities) on December 13, 1983. It had owned 48% of El Paso since February 1, 1983.

[6] Figures are for fiscal year ending June 30, 1983.

[7] Company was spun off from Trans World Corp. (No. 40 among the Largest Retailing Companies).

[8] Figure is for Norfolk & Western Railway.

[9] Figure is for North Central Airlines.

[10] Wholly owned by Standard Oil of Ohio (No. 25 on the FORTUNE 500).

[11] Figures are for fiscal year ending May 31, 1983.

[12] Wholly owned by IC Industries (No. 96 on the FORTUNE 500).

[13] Wholly owned by Atlantic Richfield (No. 12 on the FORTUNE 500).

[14] Wholly owned by Exxon (No. 1 on the FORTUNE 500).

[15] Wholly owned by British Petroleum (No. 2 among the 1982 Largest Industrial Corporations Outside the U.S.).

[16] Figures are for fiscal year ending March 31, 1983.

THE 50 LARGEST UTILITIES RANKED BY ASSETS

RANK 1983	RANK 1982	COMPANY	ASSETS[1] $ THOUSANDS	OPERATING REVENUES[2] $ THOUSANDS	OPERATING REVENUES[2] RANK	NET INCOME $ THOUSANDS	NET INCOME RANK	STOCKHOLDERS' EQUITY $ THOUSANDS	STOCKHOLDERS' EQUITY RANK
1	1	**American Telephone & Telegraph** (New York)	**149,529,800**	**69,403,200**	1	**248,700‡**	26	**60,762,400**	1
2	2	**GTE** (Stamford, Conn.)	**24,222,856**	**13,086,559**	2	**955,604**	1	**6,584,582**	2
3	3	**Pacific Gas & Electric** (San Francisco)	**14,721,533**	**6,646,699**	3	**787,967**	3	**6,353,713**	3
4	4	**Commonwealth Edison** (Chicago)	**13,591,137**	**4,634,021**	9	**802,278**	2	**5,064,060**	4
5	5	**Southern Company** (Atlanta)	**13,475,388**	**5,418,043**	5	**590,326**	5	**4,041,577**	7
6	6	**American Electric Power** (Columbus, Ohio)	**12,831,843**	**4,368,430**	13	**427,956**	9	**3,639,211**	8
7	7	**Middle South Utilities** (New Orleans)	**11,100,667**	**2,909,657**	24	**378,050**	12	**3,001,542**	13
8	8	**Southern California Edison** (Rosemead)	**11,035,060**	**4,464,256**	12	**690,780**	4	**4,262,364**	6
9	9	**Texas Utilities** (Dallas)	**8,780,954**	**3,487,916**	18	**461,468**	7	**3,235,375**	10
10	10	**Public Service Electric & Gas** (Newark)	**8,565,433**	**3,962,932**	15	**389,779**	10	**3,337,693**	9
11	13	**Consumers Power** (Jackson, Mich.)	**8,468,784**	**2,973,691**	23	**347,764**	15	**2,903,276**	14
12	11	**Consolidated Edison** (New York)	**8,246,893**	**5,515,604**	4	**575,836**	6	**4,306,000**	5
13	12	**Detroit Edison**	**8,195,356**	**2,309,658**	33	**364,622**	14	**2,731,047**	15
14	15	**Philadelphia Electric**	**8,143,795**	**2,596,050**	29	**389,089**	11	**3,091,795**	11
15	17	**Florida Power & Light** (Miami)	**7,721,073**	**3,352,535**	22	**313,963**	16	**2,505,556**	16
16	14	**Dominion Resources** (Richmond, Va.)[3]	**7,691,314**	**2,611,720**	28	**266,017**	23	**2,321,998**	17
17	16	**Duke Power** (Charlotte, N.C.)	**7,379,445**	**2,420,252**	32	**431,277**	8	**3,038,488**	12
18	18	**Houston Industries**	**6,575,266**	**3,993,067**	14	**303,748**	18	**2,220,625**	19
19	20	**Long Island Lighting** (Mineola, N.Y.)	**6,389,583**	**1,787,851**	37	**364,974**	13	**2,228,346**	18
20	19	**Pennsylvania Power & Light** (Allentown)	**6,049,181**	**1,248,397**	47	**296,011**	19	**1,999,324**	22
21	21	**Ohio Edison** (Akron)	**5,905,142**	**1,515,852**	43	**272,400**	21	**2,074,309**	21
22	24	**Central & South West** (Dallas)	**5,716,500**	**2,612,634**	27	**267,372**	22	**1,848,579**	25
23	28	**Niagara Mohawk Power** (Syracuse, N.Y.)	**5,357,572**	**2,632,315**	26	**312,409**	17	**2,139,073**	20
24	22	**General Public Utilities** (Parsippany, N.J.)	**5,333,870**	**2,480,304**	31	**50,889‡**	50	**1,487,953**	34
25	26	**Carolina Power & Light** (Raleigh, N.C.)	**5,293,606**	**1,647,183**	40	**239,269**	28	**1,872,459**	24
26	23	**Columbia Gas System** (Wilmington, Del.)	**5,238,355**	**5,078,370**	7	**173,735**	38	**1,648,634**	30
27	29	**Union Electric** (St. Louis)	**5,205,556**	**1,401,086**	45	**276,155**	20	**1,911,771**	23
28	25	**Panhandle Eastern** (Houston)	**5,193,643**	**3,405,245**	20	**152,438**	44	**1,527,805**	32
29	35	**InterNorth** (Omaha)	**5,010,360**	**4,996,992**	8	**232,645**	29	**1,714,849**	27
30	27	**United Telecommunications** (Westwood, Kans.)	**4,945,100**	**2,576,214**	30	**223,266**	31	**1,649,024**	29
31	30	**Texas Eastern** (Houston)	**4,644,517**	**5,393,045**	6	**154,577**	43	**1,422,040**	36
32	33	**Northeast Utilities** (Berlin, Conn.)	**4,628,674**	**1,889,081**	36	**221,548**	32	**1,361,724**	38
33	31	**Pacific Power & Light** (Portland, Ore.)	**4,451,161**	**1,598,380**	42	**70,920‡**	48	**1,520,181**	33
34	36	**Arizona Public Service** (Phoenix)	**4,386,312**	**1,074,009**	49	**264,797**	24	**1,805,232**	26
35	41	**Gulf States Utilities** (Beaumont, Tex.)	**4,353,398**	**1,436,188**	44	**229,799**	30	**1,553,043**	31
36	40	**Public Service Co. of Indiana** (Plainfield)	**4,344,760**	**873,925**	50	**255,847**	25	**1,705,088**	28
37	39	**Cleveland Electric Illuminating**	**4,267,427**	**1,210,316**	48	**246,026**	27	**1,355,488**	39
38	38	**Continental Telecom** (Atlanta)	**4,228,138**	**2,101,281**	34	**172,384**	39	**1,213,579**	45
39	34	**American Natural Resources** (Detroit)	**3,944,400**	**3,353,700**	21	**171,300**	40	**1,056,600**	48
40	42	**Baltimore Gas & Electric**	**3,809,785**	**1,638,605**	41	**216,453**	33	**1,450,238**	35
41	46	**Pacific Lighting** (Los Angeles)	**3,719,061**	**4,586,476**	11	**157,249**	42	**1,261,897**	42
42	43	**Northern Indiana Public Service** (Hammond)	**3,695,965**	**1,956,360**	35	**137,849**	45	**1,214,758**	44
43	37	**Transco Energy** (Houston[1]	**3,624,619**	**3,845,413**	16	**132,973**	46	**821,245**	50
44	44	**Allegheny Power System** (New York)	**3,561,414**	**1,724,231**	38	**169,679**	41	**1,149,174**	46
45	49	**Illinois Power** (Decatur)	**3,436,937**	**1,278,259**	46	**207,736**	35	**1,402,841**	37
46	47	**Northern States Power** (Minneapolis)	**3,395,385**	**1,695,813**	39	**183,902**	37	**1,255,210**	43
47	●	**El Paso Natural Gas** (Tex.)[4]	**3,395,351**	**4,607,206**	10	**54,886**	49	**877,049**	49
48	45	**Consolidated Natural Gas** (Pittsburgh)	**3,357,555**	**3,445,190**	19	**195,834**	36	**1,288,765**	40
49	50	**Enserch** (Dallas)	**3,258,835**	**3,502,365**	17	**77,071**	47	**1,060,873**	47
50	48	**Sonat** (Birmingham, Ala.)	**3,222,449**	**2,686,778**	25	**210,223**	34	**1,287,980**	41
		TOTALS	**473,641,208**	**225,433,354**		**15,117,840**		**171,566,433**	

● Not on last year's list.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

† Average for the year; see the reference to "employees" on page 194.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 194.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[1] Assets are shown as of December 31, 1983, unless otherwise noted. Only assets of consolidated subsidiaries are included.

[2] Gross receipts from operations during the 1983 fiscal year, including any non-utility revenues from manufacturing, transportation.

NET INCOME AS PERCENT OF EQUITY		EMPLOYEES		EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS			
							1973-83 GROWTH RATE		1983		1973-83 AVERAGE	
PERCENT	RANK	NUMBER	RANK	1983 $	1982 $	1973 $	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK
0.2§	50	965,570	1	0.13‡	8.40	5.06	(30.66)	49	13.09	28	10.32	30
13.3§	22	184,800	2	5.00	4.70	2.87	5.71	14	12.51	30	14.11	9
12.1§	32	27,300	4	2.15	2.45	1.61	2.90	32	16.80	22	13.04	17
14.4§	14	17,757	11	4.39	3.75	3.16	3.34	28	14.85	24	9.43	35
14.6	10	30,875	3	2.70	2.38	2.07	2.69	34	15.84	23	11.73	22
11.8	33	24,072	6	2.44	2.03	2.85	(1.54)	45	9.21	34	7.50	44
12.6	29	12,942	16	2.46	2.33	2.09	1.64	40	1.34	42	8.09	40
15.3§	7	16,292	12	6.22	5.13	2.70	8.70	6	23.39	15	17.82	5
14.3	16	16,148	13	3.90	3.85	2.01	6.85	11	8.13	37	7.95	41
11.2§	40	13,283	14	3.40	3.24	2.61**	2.68	35	9.12	35	13.59	11
10.2§	42	12,988	15	3.12	3.16	2.41	2.62	36	(15.49)	47	7.50	43
13.3§	26	22,162	7	4.16	3.55	1.39**	11.55	4	30.51	10	20.17	1
11.6§	37	11,152	24	2.21	1.75	1.91	1.47	41	17.56	21	10.57	28
11.6§	36	10,508†	26	2.40	2.39	1.99	1.89	38	(2.97)	44	9.92	32
11.7§	34	12,796	17	5.02	5.49	3.09	4.97	21	20.80	18	13.50	14
11.5	39	12,664	19	3.28	2.97	3.19	0.26	43	13.92	26	11.08	23
13.3§	23	20,965	9	3.77	3.59	1.87	7.26	9	18.04	20	13.58	12
13.7	19	11,229	22	3.54	1.62	2.03	5.70	15	8.27	36	8.85	38
15.8§	6	5,888	43	2.80	2.70	2.03	3.27	29	(27.62)	48	6.69	47
11.5§	38	8,160	33	3.06	3.35	2.57	1.76	39	9.55	33	11.00	24
12.3§	31	7,702	34	2.22	2.13	2.14	0.37	42	0.36	43	6.75	46
14.5	13	9,028†	30	3.02	2.82	1.72	5.79	13	22.47	17	10.65	26
13.1§	27	10,600	25	2.77	2.64	1.39	7.14	10	12.90	29	13.01	18
3.4	48	12,719	18	0.83‡	0.61**	2.25	(9.49)	47	14.81	25	(1.46)	49
11.6§	35	9,003	31	3.21	3.17	2.58	2.21	37	13.63	27	10.58	27
10.1§	43	11,800	20	4.41	5.10	3.28	3.00	31	32.54	9	11.88	21
13.3§	25	7,288	38	2.66	2.17	1.62	5.08	20	5.71	41	10.56	29
10.0	44	7,100	39	3.64	5.36	2.13	5.50	17	46.38	4	14.19	8
12.9§	28	9,741	27	4.77	3.01	1.23	14.54	2	55.96	1	18.81	3
13.4§	21	27,218	5	2.61	2.49	1.61	4.95	22	9.82	32	10.28	31
10.9	41	6,200	41	5.95	6.28	3.48	5.51	16	7.50	38	6.91	45
16.3	2	8,957	32	2.37	1.76	1.42	5.26	19	12.41	31	12.44	20
4.2§	47	9,126	29	0.45	3.03	2.27	(14.94)	48	26.20	13	9.19	37
13.3§	24	7,642	35	3.46	3.30	2.63	2.78	33	(10.01)	46	10.73	25
13.4§	20	4,950	48	2.31	1.95	1.70	3.11	30	7.44	39	9.30	36
14.4§	15	5,267	46	4.46	4.55	2.43	6.28	12	(41.93)	49	2.75	48
16.2§	4	5,339	45	3.28	3.01	2.03	4.90	23	6.00	40	9.49	34
13.7§	18	21,540	8	2.45	2.32	1.67	3.91	27	33.30	8	9.92	33
16.2	3	11,174	23	7.03	6.77	4.71	4.09	26	46.25	5	12.69	19
14.2§	17	9,158	28	4.95	4.07	2.96	5.28	18	20.02	19	13.78	10
12.5	30	11,236	21	5.02	4.57	2.30	8.12	7	38.47	6	15.91	6
9.9§	45	5,943	42	1.73	1.55	2.29	(2.77)	46	27.72	12	7.75	42
16.2	5	3,533	50	5.10	5.26	1.99	9.87	5	54.81	2	19.57	2
14.8	9	5,825	44	3.54	3.41	2.33	4.27	24	23.16	16	13.52	13
14.5§	12	3,969	49	3.80	3.04	2.51	4.23	25	(5.35)	45	8.22	39
14.5§	11	7,564	36	5.60	4.79	2.61	7.93	8	36.17	7	13.39	15
2.8§	49	5,005	47	N.A.	N.A.	N.A.	—		—		—	
14.9§	8	7,490	37	4.74	3.90	1.47	12.38	3	51.85	3	18.77	4
5.7§	46	19,610	10	1.20	2.70	1.25	(0.43)	44	25.53	14	13.05	16
16.3	1	6,500	40	5.20	5.05	1.32	14.69	1	29.43	11	14.50	7
		1,715,778										

etc., and revenues from discontinued operations when they are published. All companies on the list must have derived more than 50% of their revenues from utility operations.

[‡] Company was formed as a holding company for Virginia Electric & Power on April 20, 1983.

[*] Company is a subsidiary of El Paso (1982 rank: No. 32), which was acquired by Burlington Northern (No. 6 among the Largest Transportation Companies) on December 13, 1983.

ALPHABETICAL INDEX TO THE SERVICE 500

KEY

- **B** Commercial Banking Companies page 176
- **F** Diversified Financial Companies page 180
- **L** Life Insurance Companies page 184
- **R** Retailing Companies page 186
- **S** Diversified Service Companies page 172
- **T** Transportation Companies page 188
- **U** Utilities page 190

COMPANY	RANK
A	
AGRI Industries	S40
AMR	T5
ARA Services	R28
ARCO Pipe Line	T26
Aetna Life	L4
Aetna Life & Annuity	L29
Aetna Life & Casualty	F2
Ahmanson (H.F.)	F9
Airborne Freight	T49
Albertson's	R19
Alco Standard	S16
Alexander & Alexander Services	F74
Alexander & Baldwin	T37
Allegheny Power System	U44
Allied Bancshares	B39
Allied Stores	R23
Allied Van Lines	T39
American Broadcasting	S14
American Carriers	T50
American Electric Power	U6
American Express	F3
American Family	F77
American Financial	F37
American General Corp.	F11
American Hospital Supply	S12
American International Group	F17
American Medical International	S42
American National	L30
American Natural Resources	U39
American President Companies	T31
American Savings & Loan Assoc.	F55
American S.&L. Assoc. of Fla.	F47
American Security Corp.	B91
American Stores	R9
American Tel. & Tel.	U1
American United Life	L50
AmeriTrust Corp.	B58
Amfac	S22
AmSouth Bancorp.	B94
Arizona Public Service	U34
Arkansas Best	T36
Arrow Electronics	S96
Associated Dry Goods	R22
Associated Milk Producers	S17
Automatic Data Processing	S74
Avnet	S49
B	
BATUS	R15
BP Pipelines	T34
Bally Manufacturing	S71
Baltimore Gas & Electric	U40
Banc One Corp.	B43
BanCal Tri-State Corp.	B84
BancOhio Corp.	B55
Bank of Boston Corp.	B19
Bank of New England Corp.	B57
Bank of New York Co.	B26
Bank of Tokyo Trust	B77
Bank of Virginia Co.	B85
BankAmerica Corp.	B2
Bankers Life	L12
Bankers Trust New York Corp.	B10
Barnett Banks of Florida	B30
BayBanks	B75
Bell National Corp.	F79
Beneficial	F28
Bergen Brunswig	S38
Best Products	R39
Beverly Enterprises	S52
Beverly Hills Sav. & Loan Assoc.	F59
Blount	S72
Boatmen's Bancshares	B97
Broadview Financial	F58
Brown Group	R46
Browning-Ferris Industries	S67
Buckeye Financial	F82
Burlington Northern	T6
C	
CBS	S10
CBT Corp.	B54
CFS Continental	S48
CIGNA	F4
CSX	T4
Caesars World	S95
CalFed	F12
California First Bank	B78
Capital Holding	F36
Capitol Life	L40
Carolina Freight	T48
Carolina Power & Light	U25
Carter Hawley Hale Stores	R24
Carteret Sav. & Loan Assoc.	F38
Castle & Cooke	S30
Centerre Bancorp.	B67
Centex	S58
Central & South West	U22
Charter Security Life	L46
Chase Manhattan Corp.	B3
Chemical New York Corp.	B6
Chic. Mil. St. Paul & Pacific RR	T44
Chicago & North Western Trans.	T28
Chubb	F40
Citadel Holding	F56
Citicorp	B1
Citizens Savings Financial	F69
Citizens & S. Georgia Corp.	B45
City Federal S.&L. Assoc.	F27
City Investing	S3
Cleveland Electric Illuminating	U37
Coast Federal S.&L. Assoc.	F89
Colonial Penn Group	F85
Columbia Gas System	U26
Combined International	F50
Comdisco	S99
Comerica	B35
Commerce Bancshares	B100
Commercial Metals	S64
Commonwealth Edison	U4
Computer Sciences	S77
Connecticut General Life	L8
Connecticut Mutual	L16
Consolidated Edison	U12
Consolidated Freightways	T16
Consolidated Natural Gas	U48
Consumers Power	U11
Continental	F18
[illegible]nental Assurance	L19
[illegible]nental Illinois Corp.	B8
Continental Telecom	U38
CoreStates Financial Corp.	B34
Cox Communications	S88
Crocker National Corp.	B14
D	
DEKALB AgResearch	S92
Dairymen	S47
Dallas Federal S.&L. Assoc.	F65
Dayton Hudson	R12
Delta Air Lines	T9
Detroit Edison	U13
Di Giorgio	S57
Dominion Bankshares	B86
Dominion Resources	U16
Donaldson Lufkin & Jenrette	F33
Dorchester Gas	S41
Downey Savings & Loan Assoc.	F61
Dravo	S68
Duke Power	U17
Dun & Bradstreet	S32
E	
Early & Daniel Industries	S87
Eastern Air Lines	T7
Eastern Gas & Fuel Associates	S46
Eckerd (Jack)	R38
El Paso Natural Gas	U47
Electronic Data Systems	S86
Emery Air Freight	T32
Enserch	U49
Equitable Life Assurance	L3
European American Bancorp.	B33
Evans Products	R49
Executive Life	L27
Exxon Pipeline	T27
F	
Far West Financial	F68
Farm & Home Savings Assoc.	F49
Farm House Foods	S39
Farmers Group	F57
Farmland Industries	S8
Federal Express	T23
Fed. National Mortgage Assoc.	F1
Federated Department Stores	R7
Fidelcor	B62
Fidelity Union Bancorp.	B87
Financial Corp. of America	F7
Financial Corp. of Santa Barbara	F51
First of America Bank Corp.	B81
First American Bankshares	B88
First American Corp.	B98
First Atlanta Corp.	B59
First Bank System	B17
First Boston	F8
First Chicago Corp.	B11
First City Bancorp. of Texas	B23
First Columbia Financial	F67
First Fed. S.&L. Assoc. of Ariz.	F46
First Federal of Michigan	F22
First Interstate Bancorp.	B7
First Lincoln Financial	F87
First Maryland Bancorp.	B93
First National State Bancorp.	B51
First Nationwide Financial	F20
First Pennsylvania Corp.	B69
First Savings Assoc. of Wisconsin	F81
First Security Corp.	B71
First Southern Fed. S.&L. Assoc.	F86
First Tennessee National Corp.	B76
First Union Corp.	B47
First Western Financial	F94
First Wisconsin Corp.	B70
Fischbach	S43
Fleet Financial Group	F31
Fleming Companies	S7
Flickinger (S.M.)	S37
Florida Fed. S.&L. Assoc.	F41
Florida National Banks of Florida	B96
Florida Power & Light	U15
Fluor	S5
Fortune Federal S.&L. Assoc.	F75
Foster Wheeler Corp.	S36
Franklin Life	L32
Freedom Savings & Loan Assoc.	F60
Fremont General	F97
Frontier Holdings	T33
G	
GATX	S66
GEICO	F63
GTE	U2
Gelco	S59
General American Life	L38
General Public Utilities	U24
General Re Corp.	F34
Genuine Parts	S25
Giant Food	R41
Gibraltar Financial Corp. of Cal.	F30
Gibraltar Savings Assoc.	F39
Golden West Financial	F21
Grainger (W.W.)	S61
Grand Union	R25
Great Atlantic & Pacific Tea	R18
Great Lakes Fed. S.&L. Assoc.	F62
Great Western Financial	F10
Greyhound	S11
Guarantee Finan. Corp. of Cal.	F53
Guardian of America	L37
Gulf States Utilities	U35
H	
Hall (Frank B.) & Co.	F96
Halliburton	S4
Hanover Insurance	F84
Harris Bankcorp.	B42
Hartford National Corp.	B74
Harvest States	S19
Heller (Walter E.) International	F24
Hilton Hotels	S81
Holiday Inns	S34
Home Fed. S.&L. (San Diego)	F26
Home Fed. S.&L. Assoc. (Tucson)	F88
Home Life	L43
Homestead Financial	F72
Hospital Corp. of America	S13
Household International	R10
Houston Industries	U18
Humana	S27
Huntington Bancshares	B64
Hutton (E.F.) Group	F13
I	
IDS Life	L26
IU International	S24
Illinois Central Gulf Railroad	T25
Illinois Power	U45
Imperial Corp. of America	F29
Indiana Farm Bureau Coop.	S54
InterFirst Corp.	B16

InterNorth	U29
Interpublic Group of Companies	S90
Irving Bank Corp.	B22
J	
Jewel Companies	R14
John Hancock Mutual	L6
K	
K mart	R2
Kaneb Services	S91
Kansas City Southern Industries	T42
Kaufman & Broad	S98
Kay	S78
Kemper	F25
Kemper Investors Life	L47
Key Banks	B99
Kroger	R4
L	
Landmark	S80
Leaseway Transportation	T18
Liberty	F99
Liberty National	L49
Lincoln First Banks	B80
Lincoln National	F15
Lincoln National Life	L18
Loews	F14
Lomas & Nettleton Financial	F95
Long Island Lighting	U19
Lowe's Companies	R48
Lucky Stores	R8
M	
MCA	S35
MGM/UA Entertainment	S75
Macy (R.H.)	R27
Malone & Hyde	S18
Manufacturers Hanover Corp.	B4
Manufacturers National Corp.	B56
Marine Midland Banks	B15
Marriott	R29
Maryland National Corp.	B61
Massachusetts Mutual	L11
May Department Stores	R20
Mayflower	T45
McDonald's	R30
McKesson	S9
McLean Industries	T30
Mellon National Corp.	B13
Melville	R21
Mercantile Bancorp.	B63
Mercantile Stores	R43
Mercantile Texas Corp.	B28
Mercury Savings & Loan Assoc.	F64
Meridian Bancorp.	B89
Merrill Lynch & Co.	F6
Metropolitan	L2
Metropolitan Fed. S.&L. (Fargo)	F83
Michigan National Corp.	B46
Middle South Utilities	U7
Midlantic Banks	B52
Minnesota Mutual Life	L36
Mission Insurance Group	F93
Monarch Capital	F71
Montgomery Ward	R13
Morgan (J.P.) & Co.	B5
Morrison-Knudsen	S23
Mutual Benefit	L15
Mutual of New York	L13
N	
NBD Bancorp	B24
NCNB Corp.	B25
Nafco Financial Group	F100
Nash-Finch	S51
National City Corp.	B48
National Health & Welfare	L48
National Investors Pension	L39
National Life	L34
National Life & Accident	L23
National Medical Enterprises	S28
National Westminster Bank USA	B41
Nationwide Life	L21
Nevada Savings & Loan Assoc.	F91
New England Mutual	L14
New York Life	L5
Niagara Mohawk Power	U23
Nielsen (A.C.)	S79
Nike	S62
Norfolk Southern	T11
Norstar Bancorp.	B68
Northeast Utilities	U32
Northern Indiana Public Service	U42
Northern States Power	U46
Northern Trust Corp.	B50
Northwest Airlines	T12
Northwestern Mutual	L10
Northwestern National	L41
Norwest Corp.	B18
O	
Ohio Casualty	F66
Ohio Edison	U21
Old Kent Financial Corp.	B92
Old Republic International	F80
Orbanco Financial Services	F76
Overnite Transportation	T47
Ozark Air Lines	T41
P	
PHH Group	S93
PNC Financial Corp.	B27
PSA	T35
Pacific Gamble Robinson	S70
Pacific Gas & Electric	U3
Pacific Lighting	U41
Pacific Mutual	L28
Pacific Power & Light	U33
Paine Webber	F23
Pan American World Airways	T8
Panhandle Eastern	U28
Parker Pen	S84
Parsons	S69
Penn Mutual	L20
Penney (J.C.)	R5
Pennsylvania Power & Light	U20
Perini	S65
Phibro-Salomon	S1
Philadelphia Electric	U14
Phoenix Mutual	L22
Piedmont Aviation	T24
Pittston	S31
Price Company	S83
Provident Life & Accident	L44
Provident Mutual	L45
Prudential	L1
Public Service Co. of Indiana	U36
Public Service Electric & Gas	U10
Publix Super Markets	R32
Pulte Home	S63
Purolator	T29
R	
RCA	S2
Rainier Bancorp.	B53
Ramada Inns	S94
Rapid-American	R37
Reliance Group Holdings	F43
Republic Airlines	T13
Republic New York Corp.	B29
RepublicBank Corp.	B21
Revco D.S.	R42
Riggs National Corp.	B73
Rio Grande Industries	T46
Roadway Services	T19
Ryan Homes	S39
Ryder System	S20
S	
SAFECO	F44
SEDCO	S97
Safeway Stores	R3
St. Paul Companies	F32
Santa Fe Southern Pacific	T1
Sears Roebuck	R1
Security Capital	F98
Security Pacific Corp.	B9
Service Merchandise	R47
ServiceMaster Industries	S76
Shawmut Corp.	B60
Society Corp.	B79
Sohio Pipe Line	T17
Sonat	U50
Sooner Federal S.&L. Assoc.	F70
Southeast Banking Corp.	B32
Southern California Edison	U8
Southern Company	U5
Southern States Cooperative	S82
Southland	R6
Southland Financial	F92
Southwest Airlines	T38
Southwest Bancshares	B37
Sovran Financial Corp.	B44
State Farm Life	L17
State Mutual of America	L31
State Street Boston Corp.	B82
Stop & Shop Companies	R33
Student Loan Marketing Assoc.	F19
Subaru of America	S55
Sun Banks	B31
Sunkist Growers	S85
Super Food Services	S45
Super Valu Stores	S6
Supermarkets General	R26
Sysco	S26
T	
Tandy	R35
Teachers Insurance & Annuity	L9
Tesoro Petroleum	S15
Texas Air	T20
Texas American Bancshares	B66
Texas Commerce Bancshares	B20
Texas Eastern	U31
Texas Federal Financial	F73
Texas Utilities	U9
Third National Corp.	B90
Tidewater	T40
Tiger International	T14
Torchmark	F45
Toys "R" Us	R50
Trans World	R40
Trans World Airlines	T10
Transamerica	F16
Transamerica Occidental Life	L33
Transco Energy	U43
TRANSOHIO Financial	F52
Transway International	S73
Travelers	L7
Travelers Corp.	F5
Trust Company of Georgia	B72
Turner Construction	S29
U	
UAL	T2
USAir	T15
Union Bank	B38
Union Electric	U27
Union Mutual	L35
United Banks of Colorado	B83
United Financial Group	F42
United First Fed. S.&L. Assoc.	F78
United Jersey Banks	B95
United of Omaha Life	L42
United Parcel Service	T3
U.S. Bancorp.	B49
U.S. Fidelity & Guaranty	F35
U.S. Home	S50
United States Leasing Internat'l	F90
U.S. Shoe	R45
United Telecommunications	U30
United Van Lines	T43
United Virginia Bankshares	B65
Univar	S60
Universal Leaf Tobacco	S53
V	
Valley Federal S.&L. Assoc.	F54
Valley National Corp.	B36
Variable Annuity Life	L25
W	
Wachovia Corp.	B40
Wal-Mart Stores	R17
Waldbaum	R44
Walgreen	R36
Walt Disney Productions	S44
Waste Management	S56
Wells Fargo & Co.	B12
Western Air Lines	T21
Western Co. of North America	S100
Western Savings & Loan Assoc.	F48
Western & Southern Life	L24
Wetterau	S21
Whittaker	S33
Wickes Companies	R31
Winn-Dixie Stores	R11
Woolworth (F.W.)	R16
Y	
Yellow Freight System	T22
Z	
Zayre	R34

NOTES TO THE FORTUNE DIRECTORY

ASSETS

Assets are those shown at the company's fiscal year-end.

NET INCOME

Net income is shown after taxes and after extraordinary credits or charges if any are shown on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Redeemable preferred stock is excluded if its redemption is either mandatory or outside the control of the company, except in the case of cooperatives. For purposes of calculating "net income as percent of stockholders' equity," any dividends paid on redeemable preferred stock, if that stock's redemption is either mandatory or outside the control of the company, have been subtracted from the net income figure.

EMPLOYEES

The figure shown is a year-end total except when it is followed by a dagger (†), in which case it is an average for the year.

EARNINGS PER SHARE

For all companies the figures shown are the primary earnings per share that appear on the company's income statement. These figures are based on a weighted average of the number of common shares and common stock equivalents outstanding during the year. Common stock equivalents generally include (a) convertible securities whose cash yield is less than two-thirds of the prime rate at the time the securities were issued and (b) options and warrants if the effect of their inclusion in the computation would reduce the primary earnings per share. Per-share earnings for 1982 and 1983 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes made after 1973. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies, or if the figures were not published in 1973. The growth rate is the average annual growth, compounded. No growth rate is given if the company had a loss in either 1973 or 1983.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price appreciation and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of 1983 of stock owned at the end of 1973 or 1982. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested at the end of the year in which they were received. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on only a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered.

Total return percentages shown are the returns received by the hypothetical investor described above. The ten-year figures are annual averages, compounded. If corporations were substantially reorganized—e.g., because of mergers—the predecessor companies used in calculating total return are the same as those cited in the footnotes to the earnings-per-share figures.

Most of the figures in the FORTUNE Service 500 Directory were prepared by reporter Michael Rogers. The figures on per-share earnings and on total return to investors were prepared by Claudine Knight.

quarterly loss ever last fall when it set aside reserves for this purpose.

Bygones are not bygones at Merrill Lynch. Says Grant Somerville, the firm's annuity marketing manager: "As a result of Baldwin, we're now looking awfully carefully at the investment policies of the companies we do business with." So gun-shy is Merrill Lynch that it has stopped selling SPDAs issued by Charter Security Life, Charter Co.'s financially unscathed subsidiary.

Golden Profits in Dangerous Dross

■ Stocks of companies that dispose of hazardous wastes are down in the dumps. Bad publicity has knocked prices about 35% below those of a year ago, and it seems that hardly a month goes by without another report of problems at a disposal site. All this obscures the real story, say analysts who follow the industry. "The fundamentals are absolutely super," declares Douglas Augenthaler of E.F. Hutton.

The companies' "market share" of hazardous waste disposal, it appears, is headed nowhere but up. Currently they handle only 4% or so of the nation's annual output of toxic material. Chemical and petrochemical manufacturers that generate the stuff dispose of the rest, mostly in dumps located at their own plant sites. Thus far, only a portion of the on-site landfills have had to comply with the Environmental Protection Agency's most stringent standards. All must eventually comply, however, and odds are that many small waste producers will choose to contract out for disposal services rather than upgrade their own facilities.

The independent waste disposers stand to prosper not only from tomorrow's waste, but from waste buried long ago. The EPA has already identified 17,500 hazardous waste dumps that need corrective action, many of them decades old, and its search continues. Most belong to the manufacturers and are candidates for cleanup by the waste management firms. To make the 2,200 worst sites shipshape would cost between $8.4 billion and $16 billion, the EPA estimates.

COMPANY fiscal year-end	**REVENUES** in millions	**NET INCOME** in millions	**STOCK PRICE RANGE** last 12 months	**RECENT PRICE** P/E multiple
Waste Management Dec. 31, 1983	**$1,040.0**	**$120.4**	**$31.75–$57.125**	**$36** 14
Browning-Ferris Industries Sept. 30, 1983	**$ 843.5**	**$ 79.7**	**$28.25–$47.675**	**$28.625** 11.5
International Technology Mar. 31, 1983	**$ 65.1**	**$ 1.7**	**$ 9.50–$15**	**$14.25** 13.6
Rollins Environmental Services Sept. 30, 1983	**$ 48.0**	**$ 2.8**	**$ 9.125–$18.875**	**$12.625** 22.1
Environmental Systems Oct. 31, 1983	**$ 29.5**	**$ 3.0**	**$ 2.25–$19.75**	**$10** 8.4

Waste Haulers Big and Small

Investors have a chance to clean up with companies that dispose of toxic wastes, analysts say. The diversified waste handlers, Waste Management and Browning-Ferris, promise stable earnings growth. The other three companies offer the potentially bigger bang of pure plays in the toxic stuff.

SO FAR industry has paid $945 million to the government's Superfund for cleanup operations. Most of that, analysts say, will go toward feasibility studies rather than tidying up. But more appropriations seem just a question of time. Meanwhile, the Superfund Act is prodding the cleanup in another way: it levies triple damages on manufacturers found responsible for leaks in abandoned sites that require plugging with public funds. As a result, reports Kenneth Leung of Smith Barney, many companies are scrambling to clean up before lawsuits hit.

For three of the six publicly traded companies in the field, hazardous waste is but one part of a large and diversified garbage business with stable earnings growth in good times and bad. During economic upturns like the present one, hazardous waste—whose output tends to follow the business barometer—boosts earnings greatly.

Waste Management, the largest company in the industry, has received most of the negative publicity of late. In early May the Chicago-area company agreed in principle to shell out $10.5 million over ten years to settle charges that it violated state and federal environmental laws at a hazardous waste dump in Ohio. It also agreed to spend $10 million to eliminate odor from the site.

Despite the costly settlement, most analysts are standing behind the stock. Waste Management ranks as "the premier company in terms of total profitability, return on equity, return on assets, and quality of management," says Kay Hahn of A.G. Becker Paribas. The Ohio settlement, says Henry Jicha of Wood Gundy, "clears up the biggest uncertainty." He expects earnings per share to climb 25% both this year and next.

Browning-Ferris Industries of Houston, No. 2 in the solid waste game, has been spared a bad press. The company expanded its hazardous-waste-handling capability just over a year ago, and analysts expect its earnings per share to reach $3.50 in 1985, up from $2.40 last year. **SCA Services**, the other diversified waste management company, may have to shell out a bundle for remedial work on its landfills. Analysts are holding off on recommending its stock.

A trio of small companies offer the only pure plays in hazardous waste. Both **Rollins Environmental Services** and **Environmental Systems Co.**, says Augenthaler of E.F. Hutton, could benefit as Congress pushes for destroying highly dangerous wastes instead of just burying them. The EPA now requires this only of PCBs. Jeffrey Klein of Kidder Peabody praises Delaware-based Rollins for its proprietary incineration capabilities. He estimates that the company will earn 75 cents per share this year and $1.05 in fiscal 1985, up from just 45 cents last year.

Analysts don't publish earnings estimates for tiny Environmental Systems, which owns the first incinerator licensed to burn PCBs. **International Technology**, the biggest of the pure plays, is second only to Waste Management in hazardous waste. The California company went public just last December.

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CAN DETROIT LIVE WITHOUT IMPORT QUOTAS?

MANIPULATING PROFITS:

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WHAT IF MONDALE WINS AFTER ALL

TURMOIL AT THE READER'S DIGEST

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FORTUNE

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MONEY & MARKETS

THE TOP LIFE INSURERS WEIGH GOING PUBLIC

If mutual companies venture out of their cocoons, the upheaval—and Wall Street's take—could be enormous.

WALL STREET can be excused these days for drooling in anticipation of a potential feast. The nation's biggest life insurers—including such giants as Prudential, Metropolitan, and Equitable—are all seriously studying the possibility of converting from policyholder to stock ownership. Demutualization, as it's known in the trade, could produce some huge public offerings. The nation's top ten mutuals could have as much as $18 billion to distribute to existing policyholders in cash and stock, and they might want to raise billions in new capital.

While demutualization has looked appealing for some time, the Stark-Moore bill now before Congress has lately made the change a lot more compelling. According to most estimates, the bill would tax mutuals at a higher rate than stock companies. That's reason enough for the New York-based mutuals to rally around state legislation to legalize changeovers; only half the states permit it. Tax considerations are much on the mind of C.E.O. John J. Creedon of New York-based Metropolitan. "If Metropolitan has to pay $150 million a year more or $2.5 billion over the decade," he asks, "can you afford to give your competition that kind of edge?"

LIFE INSURANCE COMPANY	ASSETS in billions 12/31/83	SURPLUS in billions
Prudential	$72.2	$3.0
Metropolitan	$60.6	$2.5
Equitable	$43.3	$1.2
New York Life	$24.2	$1.4
John Hancock	$23.5	$1.0
Northwestern Mutual	$14.5	$.8
Massachusetts Mutual	$12.2	$.8
Bankers Life	$11.4	$.3
Mutual of New York	$9.3	$.5
New England Mutual	$8.5	$.5

The Ten Biggest Mutuals

Their surpluses, experts say, give a conservative idea of their book value as stock companies.

The only big mutual to decide on the switch so far is Union Mutual of Portland, Maine (assets: $4 billion), and tax savings are not its primary motivation. President Colin C. Hampton says he wants to tap the public marketplace for capital to finance acquisitions and the introduction of new products; he'd also be able to attract executives with stock options. Says Hampton: "We'll have more flexibility as a stock company."

Making the transition is a complex operation that could take Union a year. One of its toughest jobs is to figure the fairest way to divide up the pie among some 250,000 policyholders without giving away so much cash that the company jeopardizes its viability. Union must win approval of its plan from two-thirds of the policyholders.

Already some Wall Street houses are tackling another major problem: how to appraise the potential market value of a mutual turned stock company. Since mutual insurance companies use so-called statutory accounting methods, considered more conservative than generally accepted accounting principles, their "surplus"—analogous to shareholders' equity—understates their net worth. For example, they expense the selling cost of a new policy in one year rather than over the life of the policy. One way to make the figure comparable would be to write up the surplus by 50% to 100%. In Pru's case a 50% write-up would produce shareholders' equity of $4.5 billion.

Demutualization could discomfit some insurance company managements, putting them under public scrutiny and exposing their companies for the first time to takeovers. Still, most industry observers believe that competitive pressures from the big financial supermarkets will force the mutuals to enter the jungle. Declares James H. MacNaughton, a corporate finance expert at Salomon Brothers, "It's inevitable. If you're going to be good, you've got to have enough capital." **—Eleanor Johnson Tracy**

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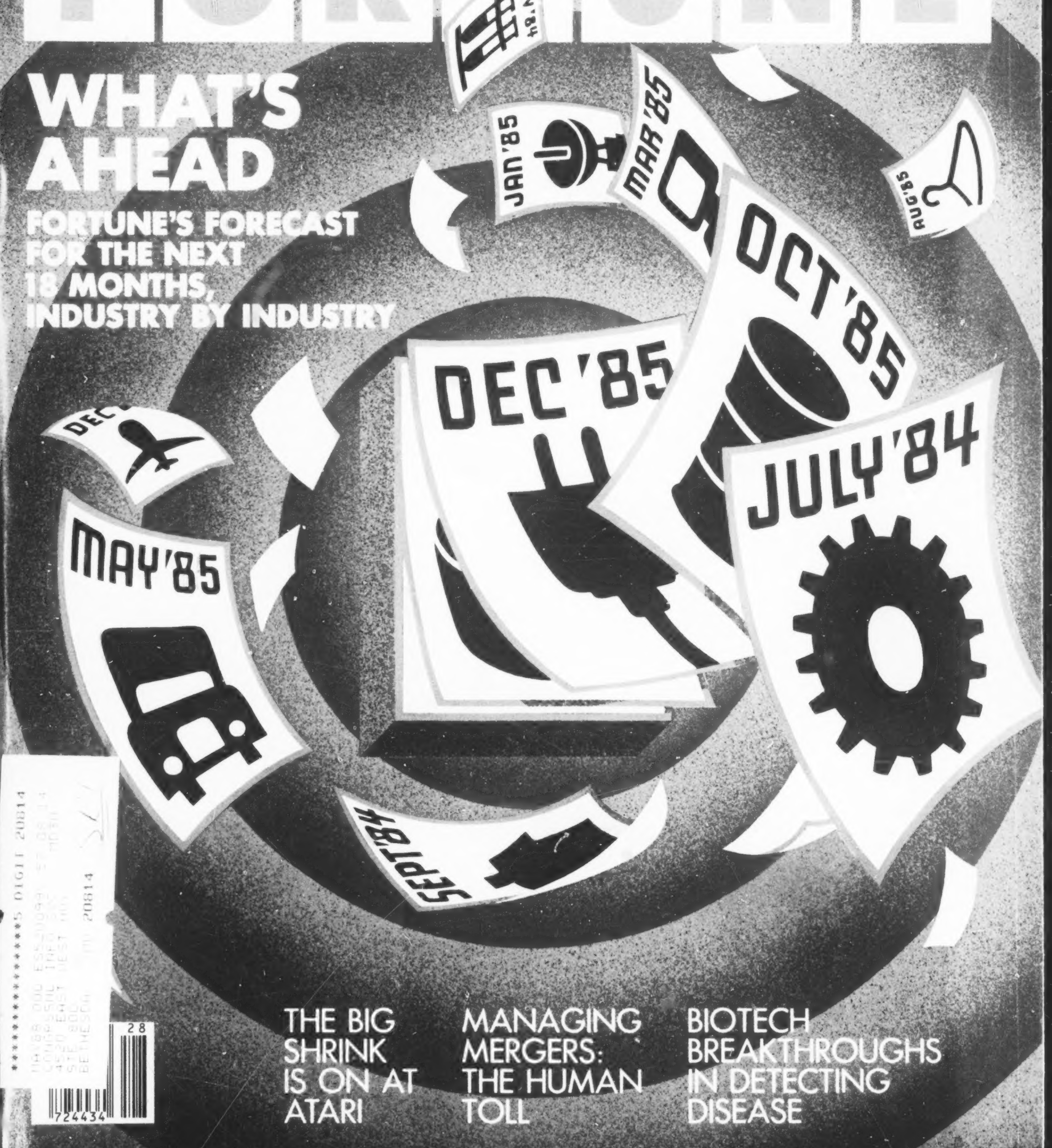
WHAT'S AHEAD

FORTUNE'S FORECAST FOR THE NEXT 18 MONTHS, INDUSTRY BY INDUSTRY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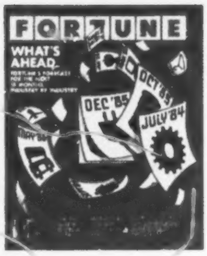

How will major industries depicted in Michael Doret's cover illustration do over the next 18 months? FORTUNE's forecast is on page 12.

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BY ELIZABETH S. SILVERMAN

PROFITS FROM STOCK BUY-BACKS

The gains shareholders can enjoy when companies repurchase shares are worth watching out for.

■ This year's faltering stock market may have frightened away some erstwhile shareholders, but one class of investors is buying stock with a vengeance. Through May, reports Salomon Brothers, corporations had repurchased some 110 million shares of their own stock vs. 142 million shares in all of 1983, and they had announced plans to buy back another 169 million shares. The repurchases will cost over $12 billion, including the $1.74 billion **Teledyne** will shell out in the richest tender offer to date by a company for its own stock. **Standard Oil of Indiana** could exceed that sum a bit if it carries out plans to buy a tenth of its shares on the open market.

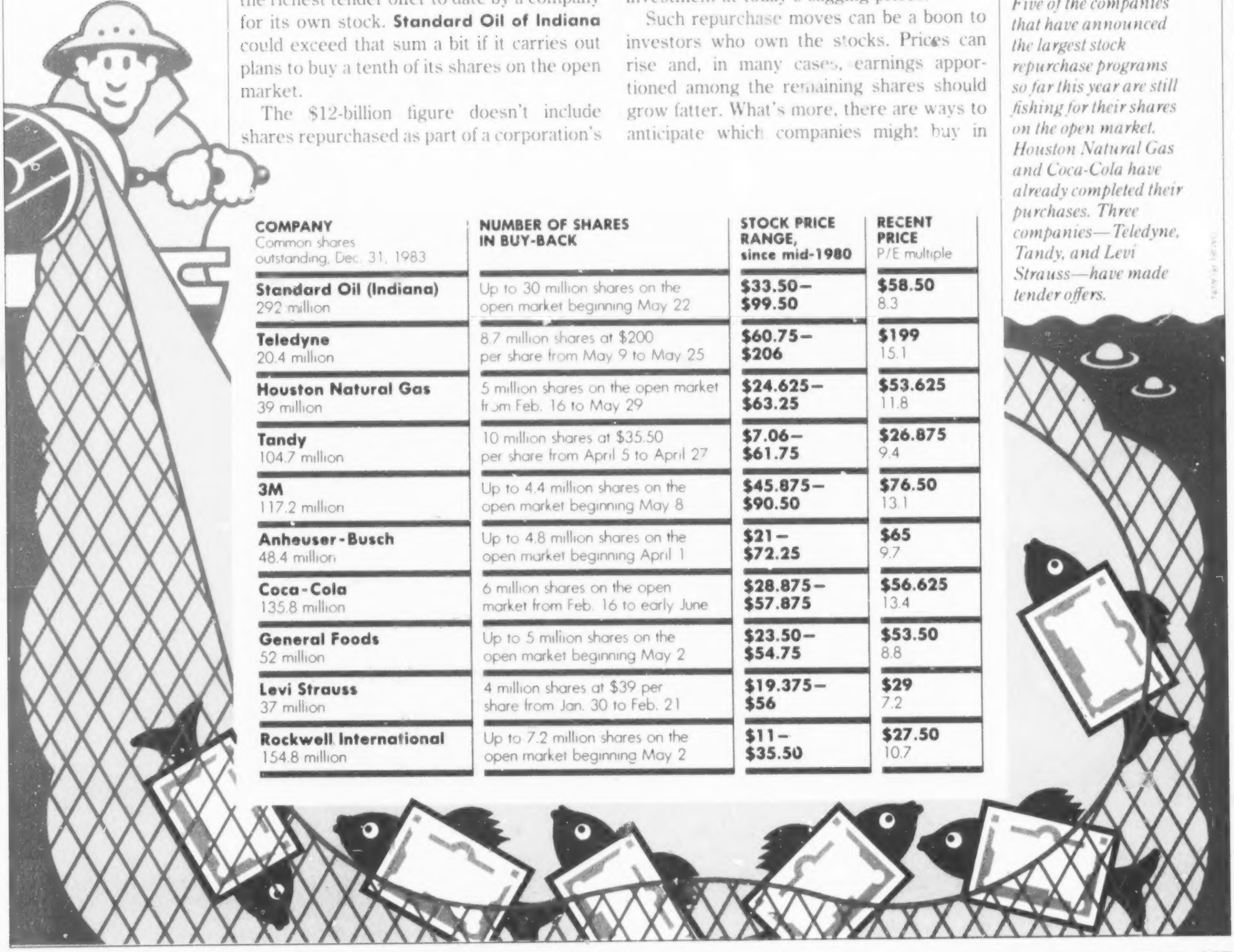
The $12-billion figure doesn't include shares repurchased as part of a corporation's defense against a takeover, as in the case of **Carter Hawley Hale Stores** in its battle with **Limited Inc.** It also excludes greenmail—shares repurchased at a premium from takeover artists. On the other hand, it includes shares bought more or less routinely by companies that periodically need stock for executive options and employee stock ownership plans. But a far larger portion represents shares that companies are buying because management believes they're a superb investment at today's sagging prices.

Such repurchase moves can be a boon to investors who own the stocks. Prices can rise and, in many cases, earnings apportioned among the remaining shares should grow fatter. What's more, there are ways to anticipate which companies might buy in

Hauling Them In

Five of the companies that have announced the largest stock repurchase programs so far this year are still fishing for their shares on the open market. Houston Natural Gas and Coca-Cola have already completed their purchases. Three companies—Teledyne, Tandy, and Levi Strauss—have made tender offers.

COMPANY Common shares outstanding, Dec. 31, 1983	**NUMBER OF SHARES IN BUY-BACK**	**STOCK PRICE RANGE, since mid-1980**	**RECENT PRICE** P/E multiple
Standard Oil (Indiana) 292 million	Up to 30 million shares on the open market beginning May 22	**$33.50–$99.50**	**$58.50** 8.3
Teledyne 20.4 million	8.7 million shares at $200 per share from May 9 to May 25	**$60.75–$206**	**$199** 15.1
Houston Natural Gas 39 million	5 million shares on the open market from Feb. 16 to May 29	**$24.625–$63.25**	**$53.625** 11.8
Tandy 104.7 million	10 million shares at $35.50 per share from April 5 to April 27	**$7.06–$61.75**	**$26.875** 9.4
3M 117.2 million	Up to 4.4 million shares on the open market beginning May 8	**$45.875–$90.50**	**$76.50** 13.1
Anheuser-Busch 48.4 million	Up to 4.8 million shares on the open market beginning April 1	**$21–$72.25**	**$65** 9.7
Coca-Cola 135.8 million	6 million shares on the open market from Feb. 16 to early June	**$28.875–$57.875**	**$56.625** 13.4
General Foods 52 million	Up to 5 million shares on the open market beginning May 2	**$23.50–$54.75**	**$53.50** 8.8
Levi Strauss 37 million	4 million shares at $39 per share from Jan. 30 to Feb. 21	**$19.375–$56**	**$29** 7.2
Rockwell International 154.8 million	Up to 7.2 million shares on the open market beginning May 2	**$11–$35.50**	**$27.50** 10.7



stock—a consideration that could sway a decision to invest in the companies.

Thanks to the 1982 tax act and the recovery, corporations are rolling in cash to finance repurchases. In earlier periods—the 1970s for example—many cash-rich companies used their newfound wealth to diversify, and a purchase of the company's own stock was thought wasteful. But today, says Samuel Karetsky of Morgan Stanley, who helps companies carry out buy-backs, "stock repurchase is viewed as a legitimate corporate finance technique."

THE OVERWHELMING majority of stock repurchase programs are carried out on the open market. If the stock is not undervalued, says Walker Lewis of the Washington consulting firm Strategic Planning Associates, a repurchase may have no effect on earnings per share. The number of shares outstanding decreases, but earnings shrink because the company loses the investment income on funds used to buy in the shares.

But Lewis adds, "Stock repurchases are almost always a good deal for the investor." Corporations tend to repurchase their own stock only when its price is low, he says. If it's selling at a price-earnings multiple of, say, five, adds Michael Sherman, head of investment policy at Shearson Lehman/American Express, the effective return is a whopping 20%. If the dividend yield is high, the company can also save more on dividend payments than it loses in investment income. Moreover, notes James McTaggart of the San Francisco consulting firm Marakon Associates, a stock repurchase should result in tax savings. When cash is held by a corporation, both the corporation and the shareholders who receive dividends are taxed on the income the cash earns. If excess cash is disbursed to the shareholders in a stock repurchase program, however, one layer of taxation—the corporate income tax—is avoided.

It's too early to say what effect this year's share repurchases will have on these corporations' stock prices. But Larry Dann of the University of Chicago looked at the repurchases of the 1970s and found that those done on the open market resulted in a 3% increase in the price of the stock, relative to the market. The higher price persisted for at least six months. Shareholders of companies that tendered for their stock fared even better. Those stock prices jumped, on average, 15% when the tender offer was announced, and stayed higher.

Steven Einhorn, an investment strategist at Goldman Sachs, has come up with a list of criteria for spotting corporations likely to repurchase their own stock. First and foremost, he says, these companies generate significant amounts of spare cash. Many repurchasers, such as Rockwell and 3M, also have exceptionally low debt as a proportion of total capital. Five of the ten repurchasers shown on the previous page have P/E multiples below the current market average, a common trait of repurchasers.

The stocks of companies likely to repurchase their own shares, says Einhorn, tend to be heavily owned by individuals, not institutions. Often, as in the case of Standard Oil of Indiana, these companies have made a number of large divestitures over the last few years. For this and other reasons, they tend to have lots of cash per share on their balance sheets. Many companies in the food, tobacco, soft drink, retailing, drug, chemical, energy, and cosmetics industries, as well as conglomerates, Einhorn says, have these attributes.

RESEARCH ASSOCIATE *Margaret A. Elliott*

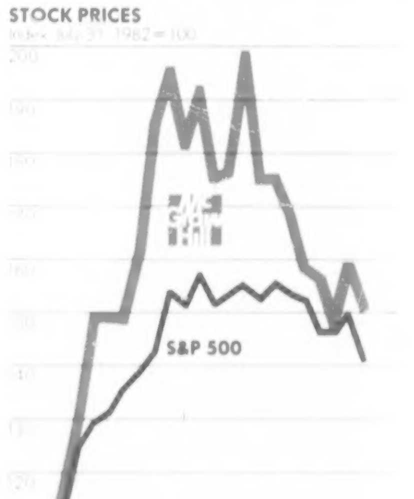
A Stake in the Information Boom

■ Shareholders of **McGraw-Hill**, the $1.3-billion-a-year New York publisher, are not accustomed to air pockets. The stock began a long climb a decade ago, only to stall in April 1983, along with that of other publishing companies. Its recent price of $39.25 a share, down 27% from its 12-month high, is far from cheap. At a price-earnings multiple of 13.5 times estimated earnings for this year, McGraw-Hill sells at a premium compared with Standard & Poor's 500-stock index. Yet analysts believe that the company's projected 15% to 17% annual earnings growth rate more than justifies that P/E. Says security analyst John Bauer of Oppenheimer & Co.: "For the growth you're getting, it is a good deal."

The cornerstone of McGraw-Hill, the publications division, puts out over 80 business, professional, and technical periodicals. Slightly larger, accounting for over $400 million in revenues last year, is the McGraw-Hill Book Co., the world's foremost textbook publisher. The company's fastest-growing operations, though, are those that use both print and electronic media to transmit information. Dodge Reports and Sweet's Catalog Files, two McGraw-Hill units that churn out definitive data on the construction industry, show perennially strong earnings gains. Standard & Poor's, a leading provider of financial information to the investment community, is the company's fastest-rising star. Its 48% increase in profits last year came on the heels of a 38% jump in 1982.

McGraw-Hill's forte, says Kevin Grunreich of First Boston, is information leverage, the process of creating new products using data bases and distribution channels already in place. MarketScope, an electronic service that provides stockbrokers with synopses of S&P research reports on individual companies, is a new offering that takes advantage of available resources. Even McGraw-Hill's traditional businesses are getting into the act. Its book division is just now introducing a combination of software and print materials for classroom use.

The key to success in the information-processing business, says analyst Patrick O'Donnell of Donaldson Lufkin & Jenrette, "is to pay once for a piece of information and

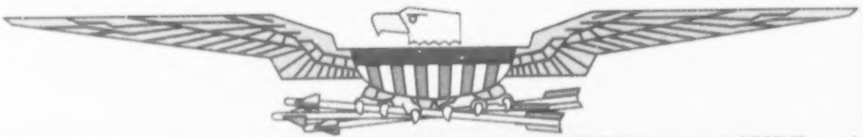


Giving Back the Gains

When the bull market got under way, McGraw-Hill's stock roared ahead, but it has been losing ground during most of the last 12 months.

to sell it as many times as possible without relinquishing it." McGraw-Hill's ability to do just that leads Kendrick Noble of Paine Webber to term its stock "one of the best in the publishing industry."

Defense Stocks After the Big Retreat



COMPANY	1983 REVENUES in millions	NET INCOME in millions	STOCK PRICE RANGE last 12 months	RECENT PRICE P/E multiple
Boeing	$11,129.0	$355.0	$35.625–$49.875	$40.875 11.5
McDonnell Douglas	$ 8,111.0	$274.9	$46.125–$62	$54.25 7.6
General Dynamics	$ 7,146.3	$286.6	$42–$61.75	$48 8.3
Lockheed	$ 6,490.3	$262.8	$30.125–$47.50	$35.25 8.1
Northrop	$ 3,260.6	$100.7	$71–$98.125	$85 10.4
Sanders Associates[1]	$ 578.1	$ 37.0	$35.25–$61	$40.25 19.4
Loral[2]	$ 418.3	$ 33.9	$18.50–$30.50	$22.75 15.7
Watkins-Johnson	$ 186.0	$ 17.7	$18–$30.625	$23.625 12.2

[1] Figures are for fiscal year ended July 19, 1983. [2] Figures are for fiscal year ended March 31, 1984.

Battle-Scarred Stocks of Pentagon Suppliers

Budget uncertainties have left some of these defense stocks with low price-earnings multiples despite the companies' good earnings prospects. Others sport fancy double-digit P/Es, but analysts expect their earnings to swell by 25% or so annually for several years.

■ Defense stocks are suffering from combat wounds. Most aerospace issues are selling at less than eight times estimated earnings for 1984. Military electronics stocks command higher price-earnings multiples, but sell at a discount to stocks of other high-tech companies with similar earnings prospects. Worries that the huge federal deficit would force big cuts in the defense budget, combined with uncertainty over the outcome of this November's presidential election, shot these former high-fliers down in mid-1983.

What investors are just beginning to realize, says Gary Reich of Wertheim & Co., is that "when politicians call for defense cuts, they are not calling for declines in defense spending so much as for a cut in the President's requested increase." Indeed, most observers now expect Congress to approve a 1985 defense budget allowing for 5% real growth. What's more, says Robert Kugel of Morgan Stanley, "the fundamentals of these stocks will remain strong throughout the 1980s, almost irrespective of who is elected President in November."

The fundamentals, in fact, are considerably more impressive than are those of most industries. Analysts foresee earnings gains of around 20% this year and 30% in 1985. Because of the long lead time on most weapons programs, any slowing of the growth in the defense budget would not be felt for several years at least. And as Wolfgang Demisch of First Boston points out, defense stocks are practically immune to a recession.

General Dynamics, biggest of the pure-play defense stocks, makes "planes for the Air Force, subs for the Navy, tanks for the Army, and missiles for everyone," says Reich of Wertheim & Co., and the St. Louis-based company's major military contracts are still in their early stages. Unfavorable publicity has hurt the stock. A former executive, accused of taking kickbacks on commercial business, fled the country and has recently alleged that General Dynamics chiseled on some Navy submarine contracts. Though the company denies this, the stock's multiple—just 6.7 times the $7.20 earnings per share that Reich expects this year—is one of the lowest in the industry.

Larger than General Dynamics, though not pure defense plays, are **Boeing** and **McDonnell Douglas**. Because Boeing derives only a third of its revenues from military sales, its fortunes to a great degree depend upon the health of commercial airlines—its main customers. The Seattle company's stock has also been selling at a higher P/E than the other aerospace shares. Nevertheless, expectations that the world's airlines will go on another plane-buying binge sometime in the next few years have propelled Boeing onto several buy lists. St. Louis-based McDonnell Douglas, by contrast, is primarily a defense contractor turning out such big-ticket items as the F-15 fighter.

Lockheed and **Northrop** are favorites of Paul Nisbet of Prudential-Bache. Saved from bankruptcy by a federal loan guarantee 14 years ago, Lockheed has grown financially strong enough to resume paying a cash dividend. Nisbet projects that the Burbank, California, company's earnings per share will climb by 33% this year and another 23% in 1985. Northrop's earnings will grow even faster, says Nisbet—by over 50% both this year and next.

More expensive, but not excessively so in the view of many analysts, are the stocks of several military electronics concerns. These companies' profits, says Peter Aseritis of E.F. Hutton, would suffer less than those of the aerospace manufacturers if Congress actually did cut back on defense spending. If budgets were tight, explains Aseritis, the military could modernize old airplanes by stuffing them with state-of-the-art electronics. **Loral**, the leader in electronic countermeasures, is one of his picks. The New York City company just posted a 25% earnings-per-share gain for the fiscal year that ended March 31, and Aseritis expects a similar showing in the current fiscal year.

Watkins-Johnson, says Alan Benasuli of Drexel Burnham Lambert, "has both a wealth of proprietary technology and a sound balance sheet." The company, based in Palo Alto, is a major supplier of top-secret surveillance systems and components. Benasuli projects earnings-per-share growth of 27% this year, followed by 18% to 20% climbs in 1985 and 1986. **Sanders Associates** of Nashua, New Hampshire, sells electronic warfare systems to the government and computer graphics equipment to corporations. Michael Carstens of Becker Paribas expects earnings from government sales—two-thirds of Sanders's total—to grow by 30% to 35% annually through 1987.

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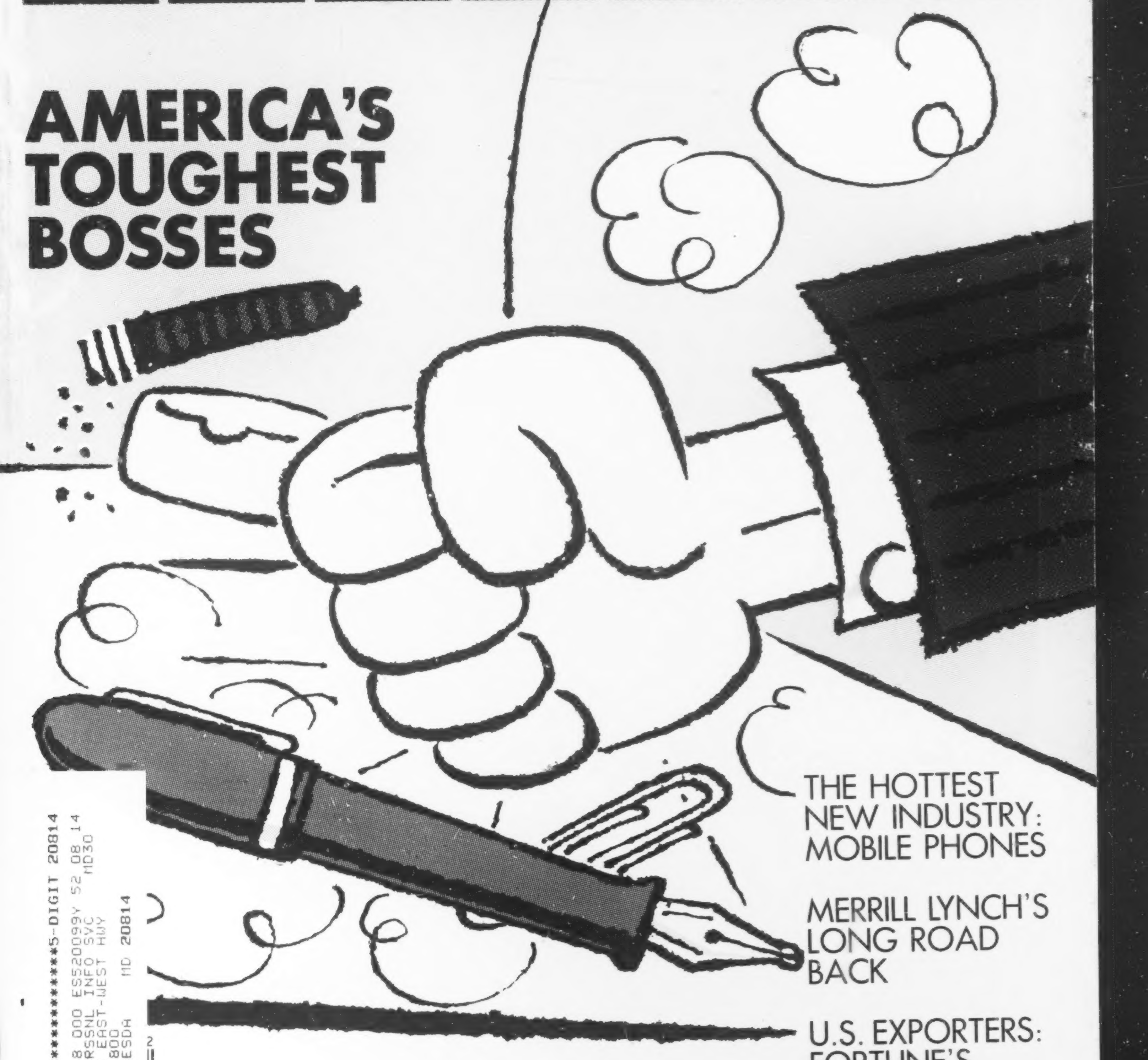
AMERICA'S TOUGHEST BOSSES



THE HOTTEST NEW INDUSTRY: MOBILE PHONES

MERRILL LYNCH'S LONG ROAD BACK

U.S. EXPORTERS: FORTUNE'S TOP 50

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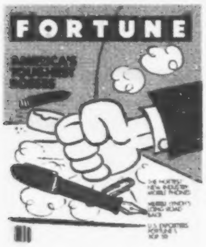

The top ten desk pounders in U.S. business, symbolized on the cover by Gary Hallgren, are wildly diverse—and diversely wild. For who they are, see page 18.

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LETTERS TO FORTUNE

where rapid acidification of lakes has occurred, have never been logged or subjected to other land-use modifications.

The statement that acid rain has been studied for only six years illustrates Brown's superficial knowledge of the issue. Our National Academy report referenced studies from the 19th century illustrating that acidic precipitation was occurring in the United Kingdom. A number of studies were conducted in the 1950s and 1960s in both Europe and North America. Major conclusions reached from these early studies differed little from those reached after later, more comprehensive work. The studies had simply not caught the fancy of the popular press and were not widely publicized.

Perhaps the most unfair insinuation in Brown's article is that all ecologists are a pack of ecofreaks who will distort any evidence, bankrupt any industry, or perform any sort of social disruption to protect the environment. On the contrary, most ecologists are very conservative people whose careers depend upon a productive society. A high proportion of them currently have jobs and research funds that depend directly on acid rain research. Who among us would not like to be the one to prove that all others have mistakenly assigned responsibility for environmental damage to acid rain? For he who did would surely win a Nobel Prize.

D. W. Schindler
Chairman
Committee on the Atmosphere and the Biosphere
U.S. National Academy of Sciences
Winnipeg, Manitoba

William M. Brown's article is filled with factual errors, half-truths, and irrelevant speculation. He says, "The rain has been studied only for about six years." I and many others have been studying the chemistry of rain and snow continuously for the last 20 years in North America.

He writes, "In fact, little of the acidity in lakes is rained onto them directly." This statement just isn't correct for many lakes. For example, Honnedaga Lake, a large, recently acidified lake in the Adirondack Mountains of New York, receives more than 70% of its annual hydrogen ion input directly from precipitation falling on the lake.

Brown says, ". . . the pollutants in the rain are only a minor contribution to the high-level acidity found in some Eastern lakes and streams." This is not true. Recently acidified lakes have been acidified by sulfuric and nitric acids. Sulfate is the dominant anion in such lakes, whereas in similarly sensitive areas not receiving acid precipitation, such as the Sierra Nevada Mountains, bicarbonate is the dominant anion.

Brown says, ". . . this acidity, which is indeed hostile to the existence of game fish and other aquatic creatures, is mostly natural rather than industrial in origin." Brown refers to an article by Krug and Frink recently published in *Science* that promotes the importance of natural acidity. This work has been criticized by numerous scientists from around the world, and their rebuttals will appear shortly in the same pages of *Science.*

Brown's speculation is simply unsupported by scientific data. Red herrings such as those spawned by him only add confusion to an already complex environmental issue.

Gene E. Likens
Director, Institute of Ecosystem Studies
The New York Botanical Garden
Millbrook, New York

William M. Brown responds: My article was intended to show that there are at least two scientific views about acid rain, a fact that is hard to glean from the press or television. Both Likens and Schindler, judging from their letters, seem to wish that the opposition to their views would vanish. In addition, both gentlemen chose to include a personal attack against me. Likens accuses me of hatching "red herrings" and engaging in unwarranted speculation when in fact I was portraying hypotheses that have considerable support from many respected scientists. Schindler concluded that I was insinuating that all ecologists are unconscionable "ecofreaks." My reply is, "Utter nonsense."

Now let us turn to substance. Likens and Schindler are both correct in asserting that studies from the distant past have been used in the search for evidence about acid precipitation and its effect.

Likens mentions Honnedaga Lake as one of "many" lakes that receive most of their acidity by direct precipitation. The essential issue here is the relative size of lakes and their watersheds. While there are occasional exceptions, it is a simple fact that nearly all U.S. lakes have watersheds that are much larger than the lakes they feed and that the bulk of the water entering those lakes has percolated through the soils of those watersheds.

Whether "recently" acidified lakes have been acidified by sulfuric and nitric acids, as Likens asserts, is a major scientific issue. The contrary position is that the relatively small amounts of those acids in rainfall will be strongly affected by the chemistry of the soils in the watershed. In that way the soils remain the major determinant of the amount and type of acids that enter aquatic systems.

The Science *article by Krug and Frink, which emphasizes natural sources of acidity, will undoubtedly be criticized by many scientists. It has been strongly supported by many other scientists. Only more time and research can finally resolve that debate.*

Lakes and forests are enormously complex systems whose biology and chemistry may be affected by highly variable inputs in both the short and long term. Consequently, there probably are no easy answers to the major scientific issues. Because much of the debate about the impact of acid rain upon these systems is emotional and is conducted in the public arena, we must expect that popular images and solutions will tend to obscure more rational ones.

Donating Organs

Re "The Life-and-Death Question of an Organ Market" (June 11): As a dialysis patient awaiting a transplant, I think a more equitable solution would be to legalize the recovery of organs from any brain-dead accident victim without the need for consent. This would help prevent an auction market. It would also help eliminate the backlog of patients awaiting transplant, improve their quality of life, and result in big savings for Medicare.

James W. Gibson
Kettering, Ohio

Our son was the victim of a motorcycle accident in which the back of his helmet severed his spinal cord. He was being maintained on life support systems when we flew in and asked to donate his organs. We donated, but it appears from the thank-you notes that only his eyes and kidneys were utilized. He should have had the privilege of helping more people. In this day of computerized communications, the availability of organs needs to be better broadcast. Your article talked about buying and selling. Our son was giving.

Mary P. Johnsen
John L. Johnsen
Portland, Oregon

The Mail-Order Business

"Glut and Gluttony in the Mail-Order Business" (July 9) really hit home. After a frustrating three-year campaign, I think I have finally been successful in ridding my mailbox of the pestilence of mail-order catalogues. At one point I was getting them at the rate of 100 per month. Twice the door of my mailbox was broken and had to be repaired at considerable expense. However, if one is persistent, obnoxious, and angry enough about the junk that daily gets squashed into his mailbox, he can get relief. It's heaven, believe me.

George R. Perrin
New York City

Corrections

The Notes to the FORTUNE *500 directory (April 30) stated that for the purpose of determining primary earnings per share, common stock equivalents include "convertible securities whose cash yield is less than two-thirds of the prime rate at the time the securities were issued." That is correct if the securities were issued before February 28, 1982. For convertible securities issued after that date, the test is whether at issuance the cash yield was less than two-thirds of the average Aa corporate bond yield.*

News/Trends (July 9) stated that the highest price attained by Merrill Lynch common stock was $110 per share in 1982 and that the recent low was $22. Adjusted for a two-for-one stock split in 1983, as it should have been, the stock's high, which was in mid-1983, was $56.50.

THE 50 LEADING EXPORTERS

THE FORTUNE DIRECTORY OF THE LARGEST U.S. INDUSTRIAL EXPORTERS

A staggeringly strong dollar, economic doldrums in Europe, and financial disasters in Latin America combined to produce a slow year for American companies selling their wares worldwide. General Motors drove off with the No. 1 position on the list.

MOST U.S. EXPORTERS had a pretty slow 1983. But not General Motors, which topped FORTUNE's annual ranking of the 50 largest industrial exporters for the second year in a row. The auto giant's foreign sales accelerated 39%, $1.8 billion, over 1982. That's more than the total dollar increase for all 50 companies put together—half of the 50 had lower exports last year than the year before, including ITT, Eastman Kodak, and Philip Morris. Even with GM pulling the export volume up to $60.3 billion, last year's total was only 2.6% higher than 1982, and was 4.3% *lower* than the 50's total foreign sales in 1981.

Small and medium-size companies had trade trouble too. Total U.S. merchandise exports, including farm products and military hardware, were down 4.7% to $213 billion. The trade deficit hit a record $69.4 billion. Nonetheless, U.S. Trade Representative William Brock says it was "remarkable" that exports did so well in the face of "some pretty tough odds."

The dollar remained the biggest handicap. Its third year of strength against other currencies kept U.S. goods relatively more costly in the international marketplace. A continuing economic slump has reduced sales of U.S. products in Europe, and too little cash and too much debt have all but stopped exports to Latin America.

Still, the auto companies surged stunningly. GM increased shipments of parts to assembly plants in Canada and Latin America. Fully assembled vehicles sold well in Saudi Arabia and Kuwait. After GM, Ford was the list's second-biggest gainer, moving up one notch to No. 3 on the power of a 26.8% increase. Chrysler jumped 15.7%.

Five of the list's seven aerospace companies headed skyward, led by Boeing's 24.2% rise. In spite of good sales of its new 757s—British Airways bought eight of them—Boeing was still over a billion dollars below its export total for 1981, the last year it led the 50. It remains the leader by far in exports as a percent of total sales.

The computer industry also did well, with gains for four of the list's six high-tech companies in spite of industrywide complaints about government export restrictions (see following story). IBM set the pace for the group with a 21.3% increase in sales abroad. Burroughs's exports dropped slightly, however, and Sperry's plummeted 32%, mainly because the strong dollar hurt business in Europe.

The biggest percentage losers for 1983 were Ingersoll-Rand and Caterpillar Tractor. Ingersoll's exports fell 37.3%, in part because the drop in oil prices hurt its sales of compressors and pumps in the Middle East. A slight recovery in Caterpillar Tractor's orders from industrialized countries could not match sales lost to cash-strapped nations. Besides, Japan's Komatsu has harvested some of Cat's business by underpricing it in many markets. Since Caterpillar is second only to Boeing in its dependence on sales abroad, the 36% reduction in exports contributed substantially to the company's record loss of $345 million.

Acquisition and divestiture changed the makeup of the list. Three of the six companies that dropped off—American Motors, Harris, and International Harvester—did so after selling off export businesses. Allied rejoined the 50 after a one-year disappearance thanks to its acquisition of Bendix, a large exporter of automotive and aircraft parts. International Minerals & Chemical also returned, largely because of higher sales of fertilizer and petroleum coke to Japan.

Since the list is compiled using only published numbers, Honeywell materialized at No. 32 after publicly reporting its figures for the first time. Motorola disappeared because it stopped issuing complete data. Motorola says its exports totaled $884 million last year. The company would have ranked No. 20 had it published the figure.

Export results for the first quarter of 1984 show signs of a modest upturn for manufactured goods. But that's not very encouraging since imports were increasing even more rapidly. The Commerce Department projects a trade deficit of $130 billion this year, more than 3½ times the deficit in 1979, the first year of the FORTUNE directory.

Trade Representative Brock believes matters won't improve until Congress addresses that other worrisome shortfall, the nearly $200-billion federal budget deficit. The resulting high interest rates, he says, keep the dollar's value high and make credit too costly for potential foreign customers.

But Brock emphasizes the positive, saying that exporters have used the period of high interest rates in the U.S. and recession in other parts of the world to reduce expenses, especially labor costs. "We're adjusting despite the value of the dollar," he says. "We'll be better competitors because of this, but it sure has been agonizing." The export agony continues.

—David Kirkpatrick

RANK 1983	1982	COMPANY	PRODUCTS	EXPORTS $000	FORTUNE 500 SALES $000	FORTUNE 500 RANK	EXPORTS AS PERCENT OF SALES PERCENT	RANK
1	1	**General Motors** (Detroit)	Motor vehicles & parts, locomotives, diesel engines	6,493,400	74,581,600	2	8.71	37
2	3	**Boeing** (Seattle)	Commercial aircraft	4,819,000	11,129,000	27	43.30	1
3	4	**Ford Motor** (Dearborn, Mich.)	Motor vehicles & parts	4,732,000	44,454,600	4	10.64	30
4	2	**General Electric** (Fairfield, Conn.)	Aircraft engines, generating equipment, locomotives	4,229,000	26,797,000	10	15.78	17
5	7	**United Technologies** (Hartford)	Aircraft engines, helicopters, air-conditioning equipment	2,383,411	14,669,265	18	16.25	16
6	6	**E.I. du Pont de Nemours** (Wilmington, Del.)	Chemicals, fibers, polymer & petroleum products, coal	2,303,000	35,378,000	7	6.51	42
7	9	**International Business Machines** (Armonk, N.Y.)	Information-handling systems, equipment & parts	2,275,000	40,180,000	5	5.66	44
8	8	**McDonnell Douglas** (St. Louis)	Aircraft, missiles, space systems	2,104,700	8,111,000	42	25.95	4
9	11	**Chrysler** (Highland Park, Mich.)	Motor vehicles & parts	2,078,600	13,240,399	21	15.70	18
10	10	**Eastman Kodak** (Rochester, N.Y.)	Photographic equipment & supplies	1,766,000	10,170,000	30	17.36	13
11	5	**Caterpillar Tractor** (Peoria, Ill.)	Earthmoving & construction equipment, engines, turbines	1,584,000	5,424,000	64	29.20	2
12	12	**Westinghouse Electric** (Pittsburgh)	Generating equipment, defense systems	1,389,223	9,532,600	34	14.57	20
13	15	**Hewlett-Packard** (Palo Alto, Calif.)	Computers, electronic equipment	1,105,000	4,710,000	75	23.46	6
14	14	**Philip Morris** (New York)	Tobacco products, soft drink ingredients, beer	1,084,000	9,465,600	35	11.45	28
15	16	**Signal Companies** (La Jolla, Calif.)	Engines, chemicals, audio-video systems	1,025,000	6,151,000	54	16.66	15
16	23	**Exxon** (New York)	Petroleum, chemicals	994,000	88,561,134	1	1.12	49
17	17	**Union Carbide** (Danbury, Conn.)	Chemicals, industrial & high-technology products	926,000	9,001,100	37	10.29	31
18	22	**General Dynamics** (St. Louis)	Tanks, aircraft, missiles, gun systems	910,900	7,146,300	46	12.75	27
19	20	**Archer Daniels Midland** (Decatur, Ill.)	Soybean meal & oil, wheat, flour, corn, corn byproducts	901,000	4,291,957	83	20.99	8
20	21	**Monsanto** (St. Louis)	Herbicides, chemicals, polymer products, fibers, silicon	879,000	6,299,000	52	13.95	23
21	18	**Weyerhaeuser** (Tacoma, Wash.)	Logs, pulp, paperboard, newsprint, lumber	870,000	4,882,629	70	17.82	12
22	25	**Northrop** (Los Angeles)	Aircraft, electronic equipment, related support services	827,700	3,260,600	123	25.38	5
23	24	**Dow Chemical** (Midland, Mich.)	Chemicals, plastics, magnesium metal	824,000	10,951,000	28	7.52	41
24	29	**Digital Equipment** (Maynard, Mass.)	Computers & related peripheral equipment	816,740	4,271,854	84	19.12	9
25	13	**Occidental Petroleum** (Los Angeles)	Agricultural chemical products, coal	803,000	19,115,700	14	4.20	46
26	19	**Raytheon** (Lexington, Mass.)	Electronic defense systems, aircraft	783,000	5,937,264	59	13.19	25
27	26	**ITT** (New York)	Logs, cellulose pulp	739,000	14,155,408	20	5.22	45
28	28	**Dresser Industries** (Dallas)	Compressors, pumps, oil-field & construction equipment	643,300	3,473,400	112	18.52	10
29	●	**Allied** (Morris Township, N.J.)	Medical instruments, connectors, fibers, chemicals	637,000	10,351,000	29	6.15	43
30	32	**Lockheed** (Burbank, Calif.)	Aircraft	594,000	6,490,300	50	9.15	36
31	35	**Phillips Petroleum** (Bartlesville, Okla.)	Liquefied natural gas, chemicals, petrochemicals, plastics	591,000	15,249,000	16	3.88	47
32	●	**Honeywell** (Minneapolis)	Electronic components, control systems, computers	537,000	5,753,100	60	9.33	35
33	38	**Minnesota Mining & Manufacturing** (St. Paul)	Electronic, industrial, health & graphics products	530,000	7,039,000	47	7.53	40
34	42	**Emerson Electric** (St. Louis)	Electronic & electromechanical components	501,900	3,475,709	111	14.44	21
35	39	**Celanese** (New York)	Fibers, chemicals	490,000	3,261,000	122	15.0[illegible]	19
36	30	**FMC** (Chicago)	Defense, petroleum & farm equipment	482,797	3,498,162	110	13.80	24
37	31	**Deere** (Moline, Ill.)	Farm & industrial equipment	447,000	3,967,934	92	11.27	29
38	37	**Aluminum Co. of America** (Pittsburgh)	Aluminum, alumina	441,300	5,263,400	65	8.38	38
39	43	**Textron** (Providence)	Helicopters, aerospace products, chainsaws, pens	422,000	2,979,800	134	14.16	22
40	41	**Mobil** (New York)	Petroleum, chemicals	421,000	54,607,000	3	0.77	50
41	44	**R.J. Reynolds Industries** (Winston-Salem, N.C.)	Tobacco products	417,000	11,957,000	23	3.49	48
42	45	**International Paper** (New York)	Pulp, paper, wood products	407,000	4,357,100	80	9.34	34
43	49	**Burroughs** (Detroit)	Data-processing & business equipment	402,500	4,296,500	82	9.37	33
44	34	**Sperry** (New York)	Computer systems, electronics, farm equipment	401,300	5,076,000	66	7.91	39
45	●	**Int'l Minerals & Chemical** (Northbrook, Ill.)	Potash, phosphates, industrial minerals	393,300	1,462,000	237	26.90	3
46	33	**Ingersoll-Rand** (Woodcliff Lake, N.J.)	Drills, compressors, pumps, bearings, tools	387,100	2,274,075	165	17.02	14
47	●	**Engelhard** (Edison, N.J.)	Specialty chemical & metallurgical products	386,300	2,099,337	174	18.40	11
48	46	**Kaiser Aluminum & Chemical** (Oakland, Calif.)	Aluminum products	367,600	2,857,600	140	12.86	26
49	●	**A.E. Staley Manufacturing** (Decatur, Ill.)	Animal feeds, starches, vegetable oils, corn sweeteners	361,000	1,679,420	207	21.50	7
50	●	**Borg-Warner** (Chicago)	Air-conditioning & energy equip., auto parts, chemicals	360,400	3,542,100	106	10.17	32
		TOTALS		**60,267,471**	**656,877,947**			

● Not on last year's list.

LOOKING AHEAD

MOBILE PHONES: HOT NEW INDUSTRY

Buyers are rushing to get cellular phones in their cars at $2,500 each. Experts say the price is sure to go down—and demand way up.

■ *by Colin Leinster*

THE HOTTEST new U.S. industry right now is cellular telephony—phones in cars. In early July cellular telephone systems were operating in eight major U.S. metropolitan areas, including New York, Los Angeles, Washington-Baltimore, and Chicago, and they are being switched on at the rate of one a week in other cities. By 1990 the handful of subscribers chatting away today on the expressways in those eight cities will have grown to nearly a million—even on the unlikely assumption that costs of subscribing will not have dropped from lofty introductory levels (see chart, page 111). But that scarcely measures the potential for a cellular explosion.

Cellular telephones will be available in most of the top 30 metropolitan areas in the U.S. by the end of the year. Another 60 markets should be hooked up in the ensuing decade. According to some estimates, cellular will be a $12-billion-a-year industry ten years from now—$4 billion in revenues from the calls that are made, $4 billion from sales of equipment to cellular telephone users, and $4 billion for antennas, computers, buildings, and other elements of the receiving and transmitting systems. Cellular looks as if it could be the biggest consumer item of its kind since citizens' band radio—though CB proved to lack staying power and was one of the great marketing disappointments of the 1970s.

Worldwide expansion of cellular telephone systems could increase the industry's girth manyfold. The Scandinavian countries and Japan have already hatched cellular systems, and their equipment manufacturers have leaped into the U.S. market.

The investor eyeing this nascent industry is hardly confined to companies that seek to supply the service, which range from telephone company subsidiaries—Nynex, Ameritech, and their kin—to MCI, the Washington Post Co., and Western Union. Investors can also choose from an international menu of early starters among equipment suppliers. Oki Advanced Communications, the New Jersey-based cellular subsidiary of Japan's big Oki Telecom Group, vies with Motorola for first place among makers of cellular equipment. Sweden's Ericsson recently scooped up a big contract for a Chicago system—an estimated $6 million. Other big players in the U.S. equipment market include AT&T, Tandy, and NEC.

PHOTOGRAPH BY DONNA FERRATO—VISIONS

The stocks of some manufacturing companies involved in cellular "went berserk" two years ago, says John S. Bain, telecommunications analyst with Lehman Brothers Kuhn Loeb. Communications Systems Inc. of Dallas, which makes cellular equipment, saw its stock go from $14 to $40 a share; the price is now riding along at about $20 a share. Right now, Bain says, cellular "is a generally depressed market." The business takes huge investment, and the payoff will take time. Lots of things could go wrong, including the

RESEARCH ASSOCIATE *Lynn Fleary*

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Inaugurating *cellular telephone service in New York City, Mayor Ed Koch makes the first call, to Albany. The phone, in a car parked at City Hall, is owned by Nynex Mobile Communications, the New York system's operator.*

threat that prices won't drop fast enough to make a phone in the car as irresistible as it sounds. Another grim possibility is that cellular might prove so popular that emerging systems would be temporarily swamped, driving potential users away.

Right now only well-heeled, must-have-one individuals and those who can write it off can afford the hefty tab of cellular service. Equipment and installation cost about $2,500; that buys the handset in the car, plus the transmitter-receiver—known as a transceiver—and an antenna. Costs of the service vary from city to city. In Chicago, Ameritech Mobile Communications charges $22 per month as a basic fee for access to the system and 22 cents to 38 cents a minute, depending on the time of day. Long-distance tolls, of course, are extra. In Washington, Bell Atlantic Mobile Systems charges $25 a month plus 27 cents to 45 cents a minute.

Pressure on mobile equipment manufacturers to cut prices will be extreme as the first rush of cost-be-damned buyers subsides. The pressure will increase this fall when Tandy Corp., an adroit mass marketer of home electronic equipment through its nationwide chain of Radio Shack stores, comes out with its first cellular phones.

John V. Roach, Tandy's chairman and chief executive, believes that goods other than automobiles become mass-market items only when they cost under $1,000 each. Tandy's first cellular products will cost "a couple of thousand," Roach says. But he adds, "If what I think is going to happen in

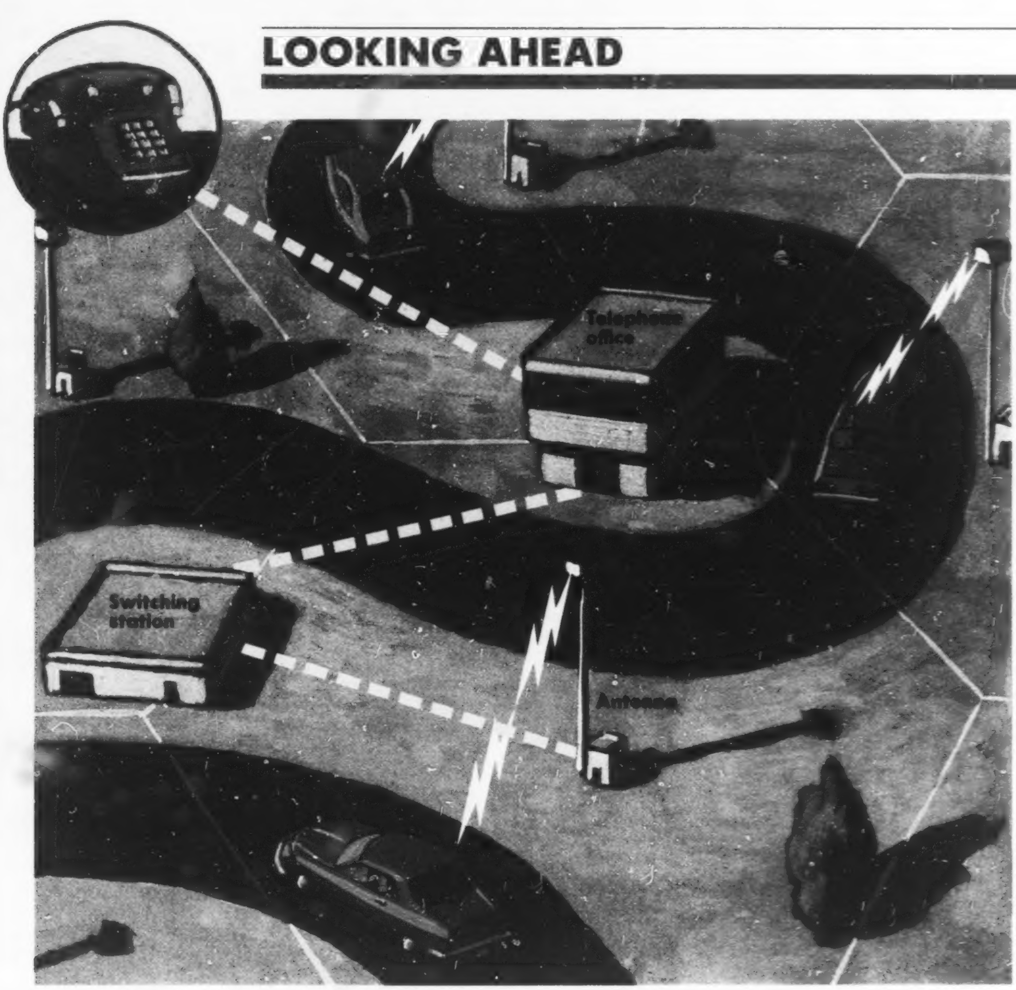


ILLUSTRATION BY BARRY ROOT

How It Works

Markets where cellular phone service is offered are divided into areas called cells. Each cell has its own antenna for receiving and transmitting signals. As cars move from one cell to another, computers at a central switching station transfer calls from one antenna to another. The calls are then patched into local phone systems like ordinary calls.

this market over the next 24 months does happen, half that price is possible." That would get equipment costs very close to his magic mass-market price. Roach goes on: "In the course of the next two years I'd hope to see monthly costs drop to $25 to $30." Such a decline should give demand a further healthy kick.

Advances in both equipment and service might also hoist consumer sales. Truly portable phones—models that could be toted around in purse or pocket for use on the hoof—might make cellular a rival of today's wired telephone systems. The only walk-around cellular phone now available, made by Motorola, costs more than $4,000. Its developer, Martin Cooper, head of Cellular Business Systems, a Chicago software company, believes portables will be available for as little as $1,000 within five years.

Many experts predict a hefty demand for additional over-the-telephone services. Mobile phones will be able to link up with computers to receive information on stock movements, inventory availability, sales orders, and other data. These services could be provided as hard copy, using printers or facsimile machines similar to those already used in various law-enforcement vehicles.

ANOTHER POSSIBLE cellular attraction: Oki is working on a burglar alarm that can be hooked up to a car phone. On parking a car, the driver records the location on tape and presets the number of the nearest precinct station. If somebody tries to break in, the car calls the cops. Oki expects to put the device on the market next year for about $500.

Cellular phone service will become available first in the top 90 markets, which contain about 74% of the U.S. population, but cellular may ultimately reach the potential customers who live and work in lesser markets, such as Battle Creek, Michigan. One scheme for spreading service into lightly settled rural areas and small towns and cities would link the cellular system with a direct broadcast satellite system instead of telephone lines. In King of Prussia, Pennsylvania, Roy E. Anderson, vice president and co-founder of Mobile Satellite Corp., a private company, says his company's plan to link cellular systems by satellite will cost "a few hundred million." But he has lined up several big investors, including Associated Communications and General Electric. He hopes to have the system working in 1988.

A cellular system works fairly simply: Each market area is divided into cells (hence the name cellular); a cell is an area that at present can measure up to 16 miles across, but can be divided. Someday, as demand builds, a cell may cover only a single office building. Each cell has an antenna capable of picking up and transmitting 666 calls simultaneously. Cellular transmitters use low power and frequencies that don't carry far, so channels can be used over and over.

As a car moves from one cell to another, computers linked with the transmitters transfer signals from one antenna to another as needed to keep them strong; the transfers take place unnoticeably, in fractions of seconds. By increasing the number of transmitters and reducing the size of cells, a cellular system could handle unlimited calls.

Mobile phones have been around for a couple of decades, but they've had a lot of disadvantages—mostly born of the limited number of radio channels assigned for this service. At the end of 1983 there were only 12 channels in New York City to be shared by 730 radio-phone subscribers, with a waiting list of at least 2,000. Even the lucky 730 often had long waits for a free circuit during rush hours. And quality was poor; callers sometimes sounded as if they were at the bottom of a well.

Those not familiar with the slow pace of life at the Federal Communications Commission might find it surprising that cellular technology is already a teenager. Bell Laboratories had developed a cellular system by 1971. After almost a decade of studies and hearings and regulatory wranglings, the FCC finally authorized two trials, one in Chicago, the other in the Washington-Baltimore market. After four years of trials, Chicago's full-scale system started operating last October, Washington-Baltimore's in December. The FCC is speeding ahead with approval of still more systems, with Dallas, Detroit, and Milwaukee about ready to join the cellular club.

In authorizing cellular systems, the FCC imposed several important restrictions. First, it decided that each market should be limited to only two carriers—the local telephone company, or so-called wire line company, being one. The other carrier was to be a "nonwire" company, so named because many of these would-be carriers have backgrounds in wireless two-way radio or paging systems.

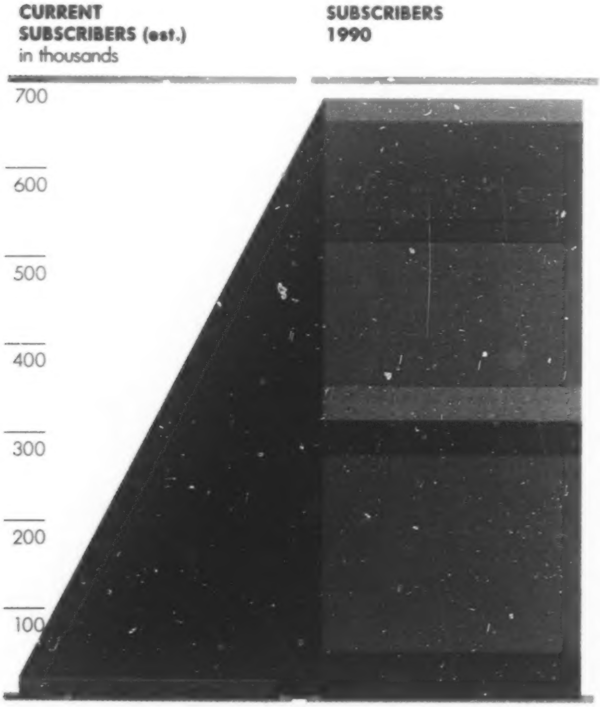
In setting aside half of each market for the telephone companies, the FCC reasoned that they are in a good position to get the cellular systems operating quickly and reliably. Other applicants oppose the set-aside rule on the ground that it gives the telephone companies an unfair competitive advantage; several nonwire companies have appealed to the FCC to drop the rule—which the FCC so far has repeatedly refused to do.

Nonwire carriers are unhappy that the phone companies enjoy what amounts to a monopoly on all business, because all cellular calls wind up on their wires. Jerry Taylor, president of mighty MCI's cellular subsidiary, which is applying for licenses in 12 of the top 30 markets, compares this to the monopoly AT&T once enjoyed throughout the U.S. phone system. "It's exactly the same thing," he says. "The phone companies would like to make cellular systems subservient to their central offices."

Taylor believes that cellular's future lies with truly portable phones. "That means that when you fly from New York to Washington, you'll be able to take your phone with you." Taylor also believes that all cellular phones will be interconnected through a national network—"a universe unto itself"—where cellular phones would share a single area code.

To increase competition, the FCC allows resale of cellular service. In New York, for example, where cellular currently is provided only by Nynex Mobile Communications, Western Union advertises its own cellular service. Western Union will install equipment made by its E.F. Johnson subsidiary in the customer's car, provide a telephone number, and do the billing. Though the actual service comes through Nynex, Western Union pushes the quality of its equipment and service.

RENT-A-CAR companies—Hertz, Avis, National, and Budget among others—are also resellers. They buy numbers from the phone company, install equipment in their cars, hook up meters that tick away as calls are made—local calls only, thank you, except with telephone credit cards—and then charge customers a premium for the privilege of driving a car with a cellular phone, as well as for calls actually made. In Indianapolis, Budget charges a premium of $7.50 a day, plus 50 cents



MARKET	COMPANY	POTENTIAL REVENUE 1990 in millions
Buffalo	**NYNEX** **Buffalo Telephone**	**$ 46.2**
Chicago	**Ameritech Mobile Communications**	**$200.2**
Indianapolis	**Indianapolis Telephone** **GTE**	**$ 43.0**
Los Angeles	**PacTel Mobile Access**	**$293.4**
Miami	**BellSouth Mobility**	**$ 76.4**
Minneapolis	**NewVector Communications**	**$ 67.7**
New York	**NYNEX**	**$404.0**
Washington/ Baltimore	**Cellular One** **Bell Atlantic Mobile Systems**	**$150.0**

SOURCES: SHEARSON/LEHMAN/AMERICAN EXPRESS; CELLULAR BUSINESS

The First Eight Cellular Systems and How They Might Grow

Cellular phones left the launch pad with a lot of lift. The eight markets in which cellular service was available in early July are expected to have over 40,000 subscribers by the end of 1984, as indicated by those long thin bars at the bottom left of the chart. By 1990 the number is expected to grow to nearly 700,000—enough to bring in telephone revenues, at present rates, of almost $1.3 billion a year. But that may be a modest estimate, based as it is on the probably faulty assumption that costs will stay as they are rather than fall. Industry experts think lower rates—and rising demand—are certain.

a minute for use of the phone. Other resellers include GM's Buick division and Ford's Lincoln-Mercury division, both of which offer mobile phones as optional extras on some models.

The resellers' rewards may be more than short term. LIN Cellular Communications, a subsidiary of New York's LIN Broadcasting Corp., an independent TV and radio company, is waiting for FCC permission to provide cellular service in Los Angeles. In the meantime, it is whiling away the time as a reseller for Pactel Mobile Access, a subsidiary of Pacific Telesis, parent of the former Bell operating companies in California and Nevada. LIN Cellular President Richard Verne points out that his company's contract with Pactel allows customers to take their phone numbers with them should they decide to switch from Pactel to LIN after LIN gets the nod to start service. That is an important concession. A customer who gets a mobile number is likely to print it on stationery and business cards. If the number can't be transferred, the customer is all but handcuffed to the cellular supplier that assigned it.

THE TELEPHONE companies got a head start in cellular by agreeing not to file competing applications to provide service in the top 30 markets (FORTUNE, July 12, 1982). They agreed that AT&T's seven operating companies would take 23 of these top markets, and General Telephone & Electronics seven. No such amity ruled among nontelephone companies wanting to get into cellular, and they lost precious time scrapping with one another for markets. Only recently have such companies as Metromedia, Western Union, Millicom, and Maxell Telecom Plus—all prominent in the rush for cellular—got together in what they call "the grand alliance." Under this alliance, encouraged by the FCC, only one partner will bid for a place in 55 of the next 60 cellular markets.

While the nonwire companies were still scrapping, the telephone companies rushed forth to snare what the industry calls "pent-ups"—customers so eager for mobile phones that they'll pay almost any price to get them. In New York, for example,

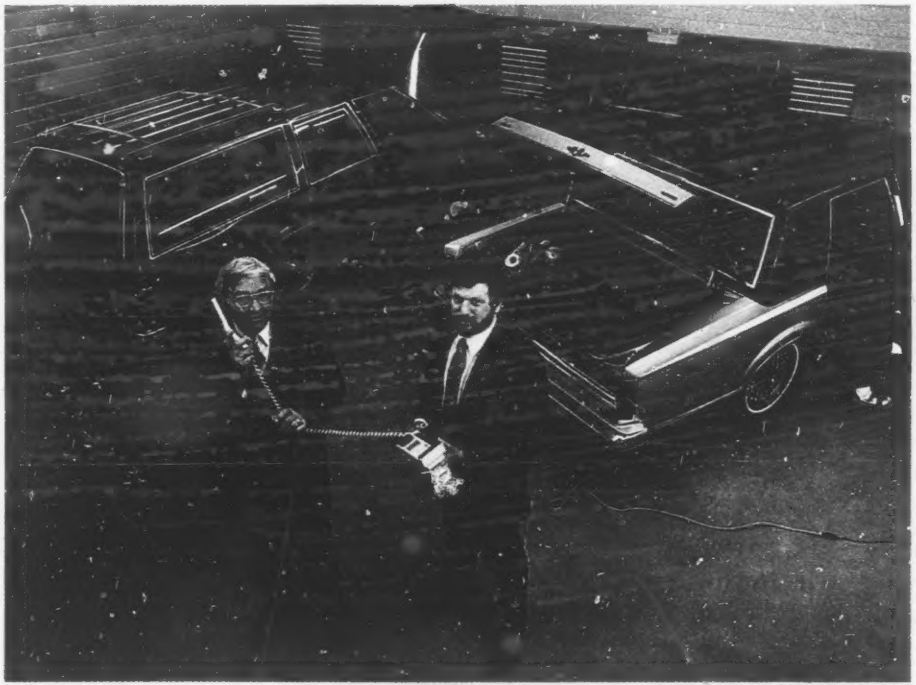
AN OPENING FOR ENTREPRENEURS

■ As the cellular telephone industry steams ahead, entrepreneurs are climbing aboard to sell, install, and service equipment. One with high hopes is Mark M. Mancini.

Mancini sold what stock he had and took out a second mortgage on his house. At the age of 51, having raised $250,000, he quit his job as vice president and general manager of Associated Communications, a New York City company that was seeking licenses to operate cellular telephone systems. In one of New York City's seedier neighborhoods he set up 800 Cellular (which, skipping the "r," also happens to be the phone number) to install and service mobile cellular phones. Mancini already has plans to open branches in Boston, Philadelphia, and Los Angeles, as well as other cities.

Lots of people share his optimism—in particular Mancini's 27-year-old banker, Paul E. Kelleman, assistant vice president of Midlantic National Bank's Secaucus, New Jersey, branch. Mancini says he had tried to raise money at all the financial giants in New York. "They either said no or they wanted to own you," he says. Kelleman recommended that Midlantic provide Mancini with an unsecured six-figure line of credit. Kelleman was impressed, he says, by Mancini's readiness to put up his house and by his 27 years of experience in radio communications.

Mancini and his sweat-equity partner, Lee M. Erdman, 34, a former special-effects whiz for Broadway and rock-and-roll shows, walked the West Side of Manhattan for months, looking for a site. They settled on a former Trailways bus garage right across the street from the New York Convention Center, scheduled for completion in 1986. By then, says Erdman, portable briefcase phones should be available: "We'll be renting them to people at the center." In June 800 Cellular opened for business and in early July was installing up to 20 phones a day, at $250 per installation. Mancini claims that cash flow is already positive.



At 800 Cellular *in New York City, workers install the transceiver for cellular telephone service in the trunk and the phone unit in the front of a Lincoln Town Car. Entrepreneur Mark Mancini (left) and his partner, Lee Erdman, turned an old bus garage into a bet on new technology.*

DONNA FERRATO—VISIONS

there were hundreds of them, many with phones installed weeks before the Nynex system was switched on in late June. When Nynex got approval, hundreds of early-bird customers began to line up. "This city's a zoo," exclaimed Bart Robins, manager of cellular installation at a Manhattan branch of Potamkin, a Cadillac and Toyota dealer. By the end of the first day after the switch-on, Robins was exasperated. "Everybody's got to be first. Me. Me. Me."

The carriers want to be first too. Nynex was subjected to a number of delays before it was allowed to switch on cellular service. When the FCC finally sent word to the company's Pearl River, New York, headquarters that it was okay to go ahead, one employee ran around the office shouting out the news "like Paul Revere," recalls Morgan J. Kennedy, Nynex Mobile's president. Then everybody went out and drank champagne.

Cellular One, a nonwire system, got a brief head start in the Washington-Baltimore market, where it competes with Bell Atlantic Mobile Systems, a subsidiary of Bell Atlantic. Wayne Schelle, chairman of Cellular One, figures being the early bird is worth "about two percentage points of market share a month." This calculation, he says, led to the formation of Cellular One, the first significant joint venture among competing nonwires.

When Schelle bid for the Washington license in 1982, the company he headed was named American Radio Telephone Service. ARTS, originally a beeper company, had operated a trial cellular service for four years. There were four other contenders: the Washington Post Co.; Metromedia; Metrocall, another paging company; and Metropolitan Radio Telephone System, a cellular consulting firm.

ARTS and the Post's cellular business merged, which cut the number of competitors by one. "We thought that the joint venture gave us a good combination, our experience and their big-league size and commitment to communications," says Schelle. But the FCC was moving slowly, ponderously mulling the applications of the three contenders. "I began to worry that the advantage we had, the four-year trial period, would be lost to a head start by Bell Atlantic."

So he began to think of some kind of further merger. In September, he sold the ARTS-Washington Post partnership to Metromedia for cash and part of the business. Cellular One was formed and won approval as the nonwire operator in the Washington-Baltimore market. The company's system began operating in December, four months ahead of Bell Atlantic. A marketing battle has ensued, but Schelle claims that the head start he gained has indeed paid off—Cellular One has 3,000 subscribers to an estimated 600 for Bell Atlantic.

MICHAEL L. ABRAMSON

Evan Richards *is a Chicago fan of cellular phones. He'd better be. As vice president of engineering and operations at Ameritech Mobile Communications, he is in charge of mobile phones for the Bell company that launched the first U.S. cellular system in October.*

MANUFACTURERS of cellular equipment also face a competitive struggle. Competition will be especially tough because there is little to differentiate products. Salesmanship makes the difference. Motorola, the dean of mobile telephony, lost a piece of business in its own backyard when Ericsson snatched the contract to build a switching station for Rogers Radiocall, a Metromedia subsidiary and Ameritech's Chicago competitor.

Oki sees itself as outstripping Motorola in the U.S. market. "We're No. 1," insists Mal Gurian, chairman and chief executive of Oki's U.S. operations. "We have more than a 50% market share." Motorola disputes the claim. But Oki is doing very well. The company has an exclusive agreement to provide New York's Nynex system with equipment, and another to provide 99% of Southwestern Bell's. It also has nonexclusive contracts with Bell Atlantic and Pactel. In fact, Oki's quick success nearly swamped it, and for a while the company was unable to keep pace with demand for its products. Now, Gurian says, Oki's first U.S. facility, a robot-filled factory in Norcross, Georgia, is in full production.

In fact, Oki may be supplying more customers than it wants to. A black market already seems to be flourishing in mobile phones. Gurian says he keeps seeing and hearing advertisements for Oki equipment "placed by people we've never heard of." The ads have shown up, he says, in New York, Miami, and Los Angeles. He adds: "It's driving me crazy trying to find out where they're getting the equipment." A product that spawns a black market clearly has good prospects. ■

AUGUST 20, 1984

FORTUNE

THE FORTUNE INTERNATIONAL 500

The Largest Industrial Corporations Outside the U.S.

THE UNEASY LIFE OF THE CORPORATE SPOUSE

THE ARGENTINE WEB THAT HAS TRAPPED U.S. LENDERS

THE NATIONALIZATION OF CONTINENTAL ILLINOIS

ELECTRONIC MAIL: MCI VS. FEDERAL EXPRESS

Susan Borman, wife of Eastern Air Lines boss Frank Borman

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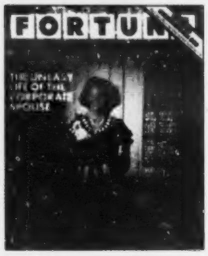
VOL. 110, NO. 4

FORTUNE



Mrs. Eastern Air Lines is among the last of the classical corporate wives. Bill Hayward shot the cover portrait of her in the Bormans' Miami dining room. A report on how corporate wives are changing is on page 26.

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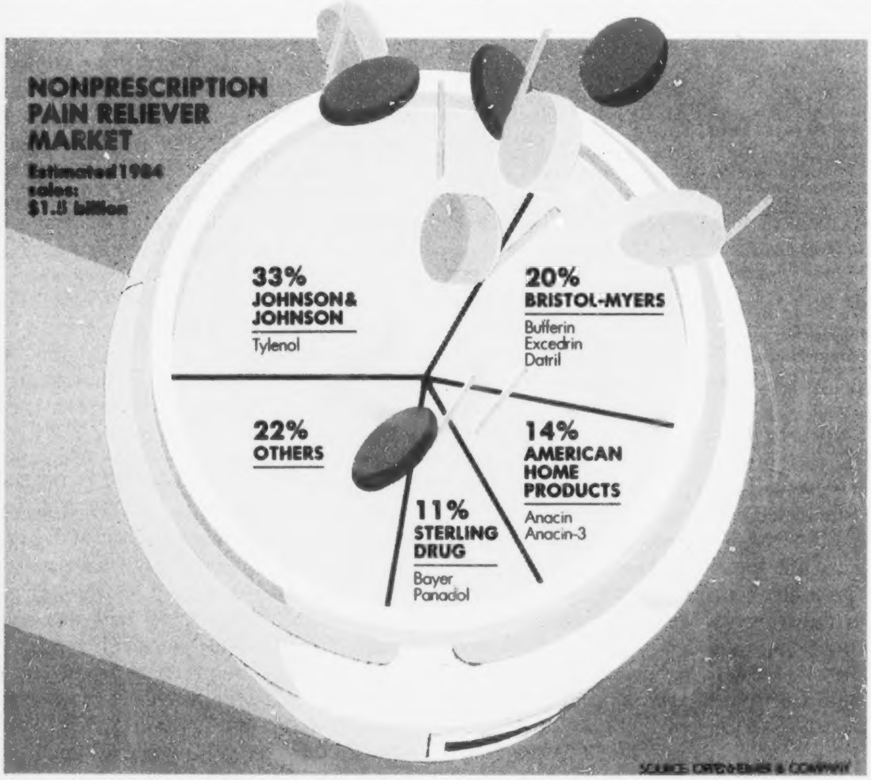
EARLY REPORTS FROM THE WAR OF THE PAINKILLERS

American Home Products and Bristol-Myers are invading the over-the-counter analgesic market with new pills made with ibuprofen. It's too soon to pick the winner, but Upjohn is a big loser.

THE FIRST FEW SALVOS have barely been fired, but already the battle over the $1.5-billion market for nonprescription pain relievers is shaping up as one of the costliest in recent history. American Home Products and Bristol-Myers are pelting the market with ibuprofen, the prescription pain reliever recently approved by the FDA for over-the-counter sale in low dosages. The two combatants, who've only been at it since early June, are so evenly matched that their fight looks like a draw for now. Both have the same product: American Home's pill is called Advil and is brown; Bristol-Myers's Nuprin is yellow. Advil costs a little less than $7 for 100 tablets, Nuprin a little more.

The companies are blitzing consumers with coupons and spending at least $35 million each on introductory advertising that makes essentially the same pitch: ibuprofen, once available only by prescription, can now be bought in nonprescription strength. Though that may make some consumers think that ibuprofen is better for aches and pains than aspirin or Tylenol, it's not. It's just different. Still, financial analysts say, Advil and Nuprin will each have sales of about $30 million by January. David Saks, a drug analyst with Becker Paribas, believes that ibuprofen could grab one-third of the U.S. nonprescription market for analgesics by 1990.



SOURCE: OPPENHEIMER & COMPANY

RICHARD OSAKA

The Ibuprofen Invasion

Ibuprofen, the brown and yellow pills, could crowd out the leaders in the painkiller market. American Home Products and Bristol-Myers have ibuprofen products; J&J does not.

For now the only sure winner seems to be Boots Co., the $2.5-billion-a-year British drug retailer and manufacturer that owns the patent on ibuprofen. Boots gets royalties on Advil and Nuprin, as well as on ibuprofen's prescription sales. It sold Upjohn nonexclusive marketing rights to ibuprofen in 1974. Marketing the drug as Motrin, Upjohn built it into the fifth-largest-selling prescription drug in the U.S., with sales last year of nearly $200 million.

Boots went after a piece of that business in 1981 with its own version of the same drug called Rufen (1983 sales: about $35 million). Then, with its eye on the expiration of ibuprofen's patent next May—and a hunch that the FDA might approve the drug for nonprescription sale before then—Boots shopped around for a licensee that would pay a high price for first crack at the over-the-counter market. American Home anted up. Neither company will discuss the agreement, but Boots does not deny rumors that it will keep getting royalties on Advil even after the patent expires.

Upjohn chose not to market its own over-the-counter pill—some say because it feared the product introduction would be too costly. Instead it made a deal with Bristol-Myers. Upjohn will manufacture and package Nuprin, then sell it to Bristol-Myers, which will distribute it, foot the advertising bill, and hand back an estimated 5% of sales. But that won't bring Upjohn enough to make up for what's happening to Motrin, which accounted for 40% of Upjohn's profits in 1983. A price war with Rufen is squeezing those profits, and Upjohn's stock has dropped from $61 a share in early July to $45 recently.

Another loser could be Johnson & Johnson, maker of the No. 1 painkiller, Tylenol. Saks, who talked to J&J early this year, believes the company was caught off guard by the FDA ruling on ibuprofen. In response to the appearance of Advil and Nuprin, Johnson & Johnson announced a "program of heavy investment spending" that will jack up Tylenol's already massive $50-million advertising budget. J&J is mum about other plans, but it may introduce its own ibuprofen product—perhaps a one-a-day dose—after the patent expires next year. By then, of course, other companies are sure to have joined the fray. Next year the war could make the current battle look like maneuvers.

—Monci Jo Williams

THE RECOVERY COMES

The long awaited recovery is finally in full bloom, and most industrial countries can look forward to finishing out the year well ahead of 1983. But—as illustrated in the charts on these pages—unemployment and interest rates remain high, world trade is badly out of balance, and developing countries' debt burdens are unnervingly large.

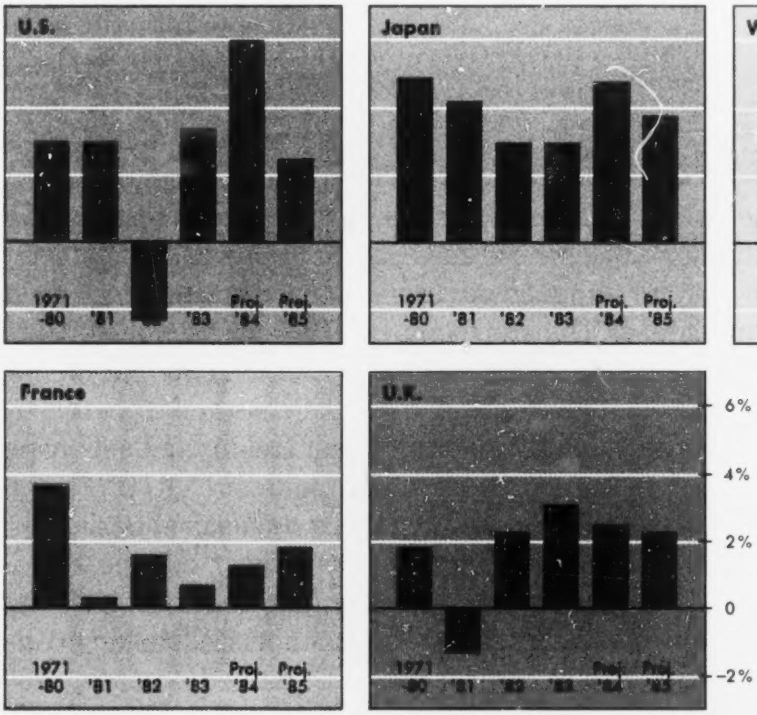
The most pleasant surprise is that growth has not generated its erstwhile undesirable companion, inflation. Anxious to keep things that way, most policymakers appear ready to accept a more moderate, sustainable growth rate in 1985 and beyond. But even in the U.S., where exuberant growth produces surprise after surprise for forecasters, inflation remains low.

The equally surprising strength of the dollar worries the U.S.'s major trading partners, who fear an abrupt fall could push U.S. interest rates higher still, derailing first the U.S. recovery and then the others. But capital is nonetheless flowing into the U.S. because the investment outlook is the best around. Europe's climate for new productive investment, already dreary because of slow population growth and fragmented markets, is further clouded by political uncertainties and a quarrelsome labor force. The result is even stronger support for the economy that leads world growth.

The Big Engine That Could

Growth is accelerating in the 24 industrial countries making up the Organization for Economic Cooperation and Development. Most are being pulled along by the recovery in the U.S., where soaring investment and consumption have created a powerful demand for imports. But Europe is building up steam too: though real wages haven't gone up, consumers are beginning to save less and spend more, boosting demand at home. By 1985 Europe will be moving along under its own power; growth will not slow as sharply as it will in the U.S. and in Japan, the major beneficiary of U.S. expansion. France is still a laggard, but may do better than shown in the projections if the Socialist government's new policies succeed in producing a more marketplace-oriented economy. In the U.K. fiscal belt-tightening and an end to the 1983 consumer spending spree will bring somewhat slower growth.

GNP GROWTH five industrial countries (percent change)



SOURCE: OECD

RESEARCH FOR CHARTS: ROSALIND KLEIN BERLIN
DESIGN BY JOE LERTOLA

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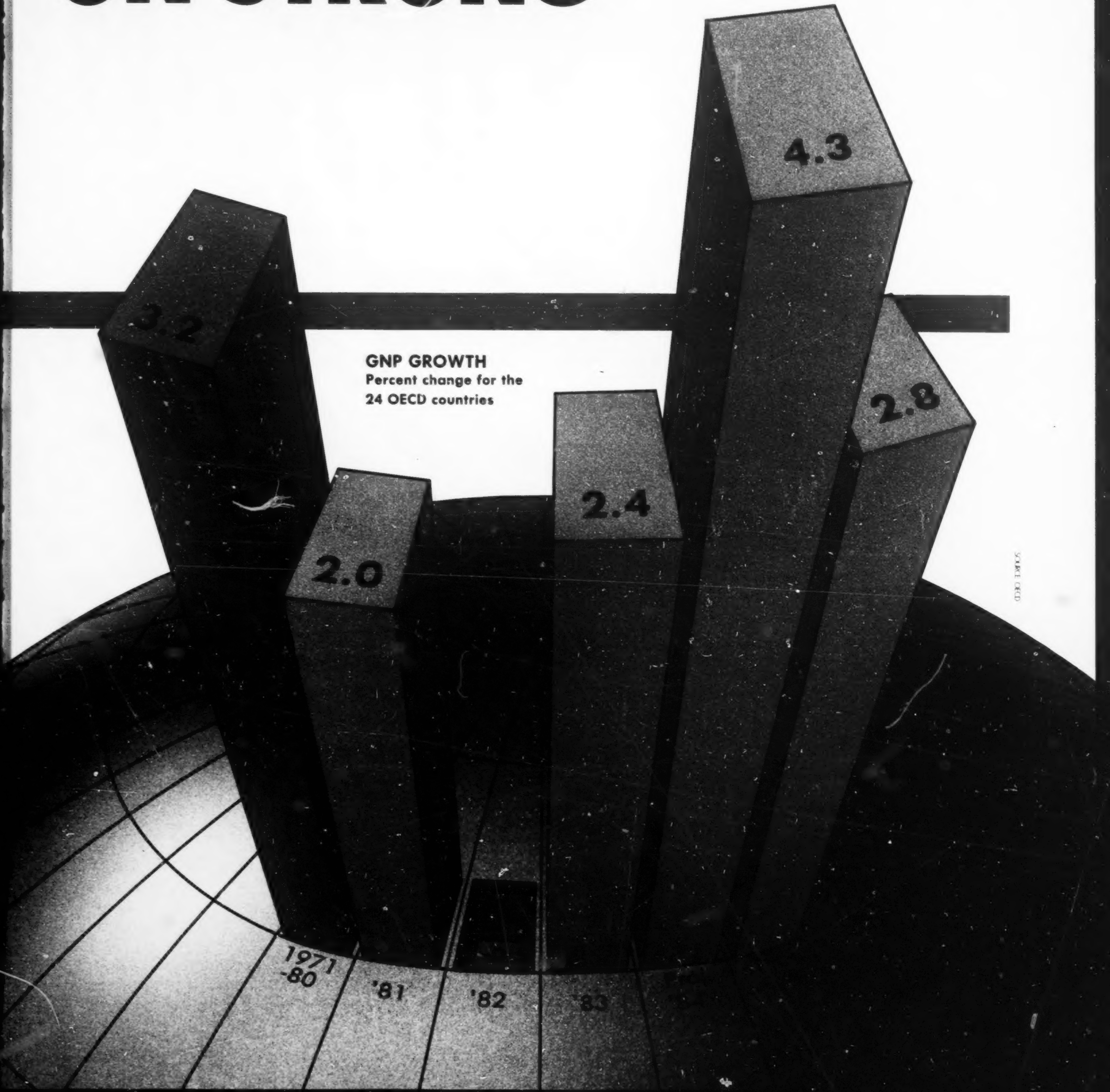


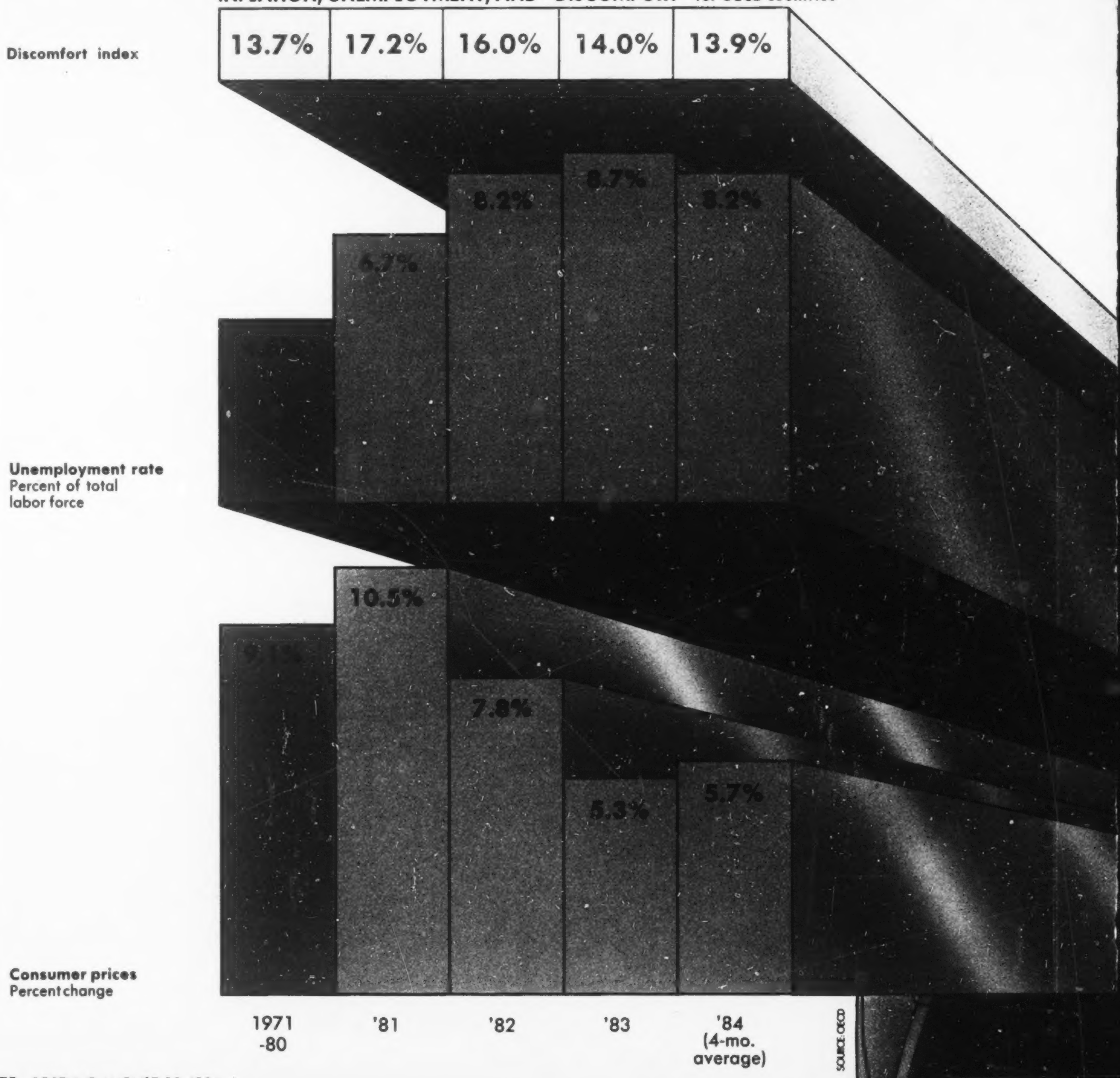
GNP GROWTH
Percent change for the
24 OECD countries

SOURCE: OECD

The Price of Disinflation

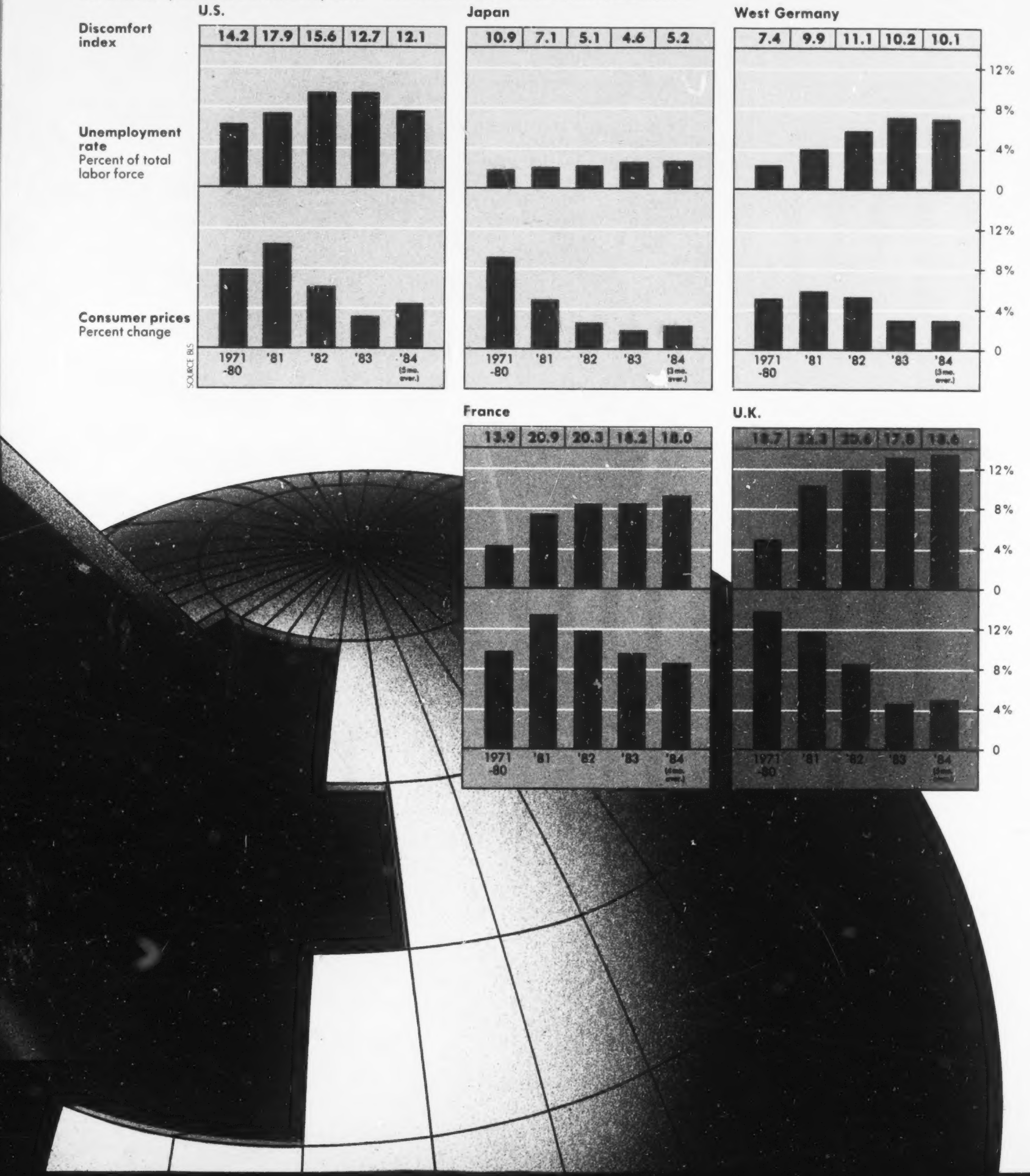
The so-called discomfort index, which reflects the combined pains of unemployment and inflation, has eased from its 1981 high. Credit goes principally to lower inflation, the result of tightfisted monetary policies and wage moderation in most of the OECD countries. The strong dollar has contributed in the U.S.: cheaper imports help keep the lid on prices in general. So far this year, inflation for the OECD countries is just over half the rate of 1981. The price of that achievement is visible in lingering high unemployment rates—except for Japan, where what passes for discomfort is something other countries can only hope to achieve. Western Europe is the worst off; struggling to contain inflation and facing a maturing industrial base, it has managed no net job creation in the past few years (see next story). A record 18.5 million remain out of work, and the unemployment rate is 2½ times the average of the 1970s.

INFLATION, UNEMPLOYMENT, AND "DISCOMFORT" for OECD countries



SOURCE: OECD

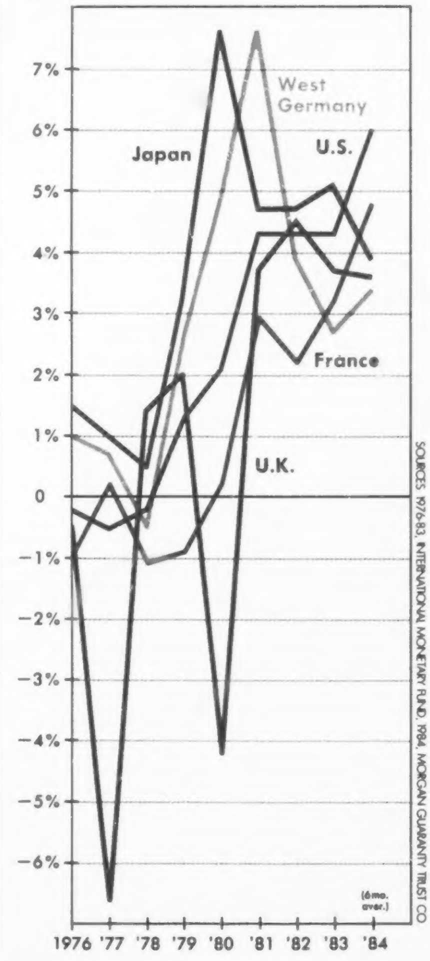
INFLATION, UNEMPLOYMENT, AND "DISCOMFORT" for five industrial countries



High-Priced Borrowing

For most of the major industrial countries, inflation-adjusted interest rates are down from their peaks of the early 1980s (the rates shown are for 90-day instruments). High U.S. rates haven't so far proved the impediment to growth that forecasters predicted: corporate profits are high, and managers are expecting hefty returns on new investments. These prospects justify the costs of borrowing today—at least over the medium and short term, the duration of much U.S. corporate borrowing. But the developing countries get hit with a double whammy. Besides exacerbating their indebtedness to foreign lenders, high rates are depressing the prices of commodities, an important source of earnings for many, by raising the cost of financing them as they move through the distribution pipeline.

REAL INTEREST RATES



SOURCES: 1976-83, INTERNATIONAL MONETARY FUND; 1984, MORGAN GUARANTY TRUST CO.

Worrying About the Dollar

The dollar can do no right. When it fell to rock bottom against the currencies of other major nations in 1978, these countries got a brief respite from high OPEC oil prices denominated in dollars, but stewed about the contagious inflation the drop provoked in the U.S. Now that the dollar's strength is stimulating their exports to the U.S., they worry that a sharp decline could torpedo everyone's recovery.

THE DOLLAR AGAINST OTHER CURRENCIES
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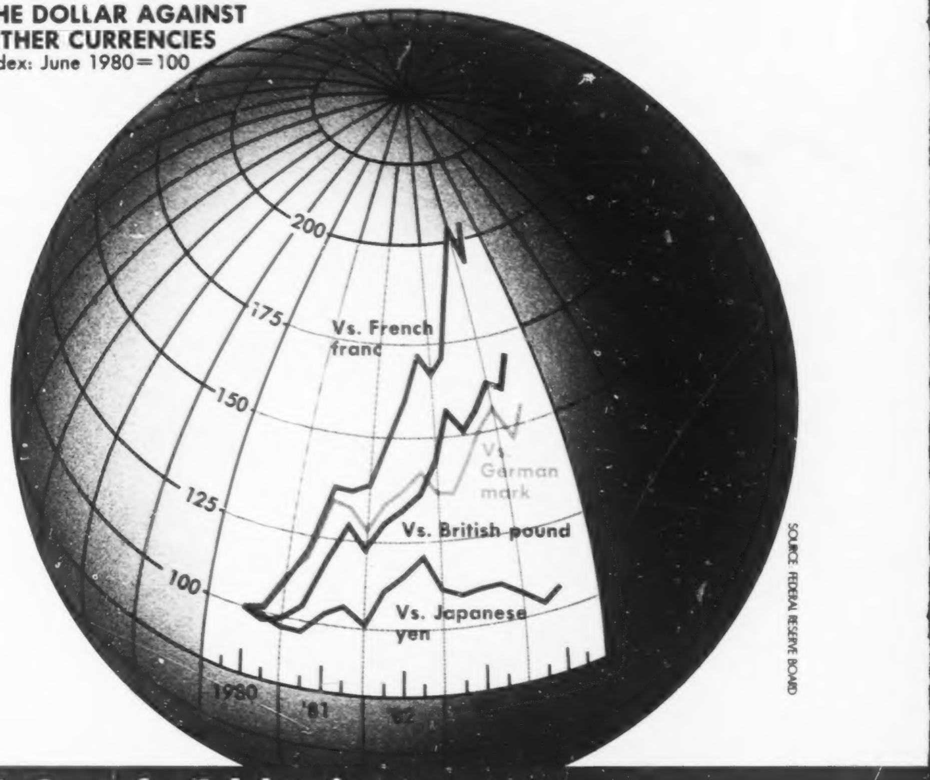


SOURCE: FEDERAL RESERVE BOARD

No Cause for Celebration

Global growth is helping the developing countries make some headway against their towering external debts; Brazil and Mexico are actually running trade surpluses. But hold the champagne. The favorable trade balances are due as much to import restraint as to export growth. Austerity programs, including those demanded by the International Monetary Fund, are imposing a heavy toll on many of the economies and could yet prove politically unacceptable. Countries like Chile, half of whose export earnings come from copper, face the possibility of further deflation in commodity prices. And Argentina remains a mess. If debtor nations—not to mention lending banks—are to remain players in the world economy, debt renegotiations will have to produce easier payment terms and possibly an interest rate cap.

DEVELOPING COUNTRIES' DEBT
in billions of dollars (projected 1984)

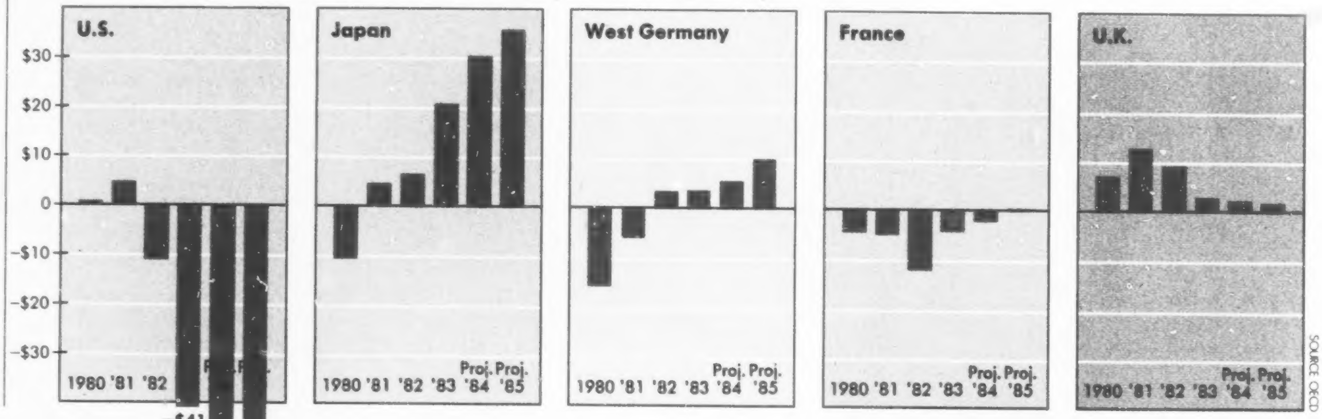
Brazil	**$102.5**
Mexico	**$ 95.0**
Argentina	**$ 49.0**
Korea	**$ 44.0**
Indonesia	**$ 32.0**
Venezuela	**$ 31.5**
Philippines	**$ 27.6**
Turkey	**$ 25.3**
Chile	**$ 20.1**
Colombia	**$ 12.1**

SOURCE: MORGAN GUARANTY TRUST CO.

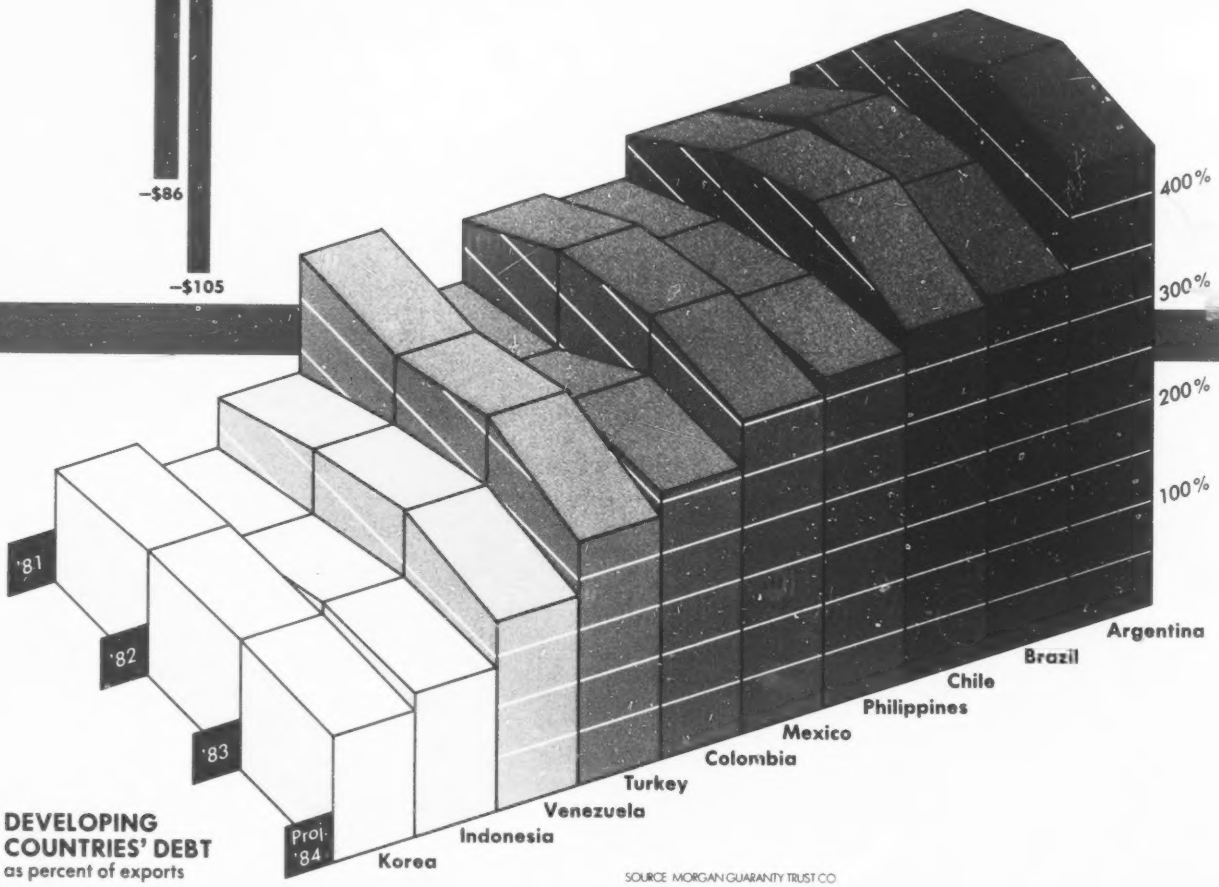
Taking the Plunge

By stoking its recovery with a heavy charge of imports—especially from Japan—the U.S. has run up an unprecedented current-account deficit. Exports are off, and not only to other industrial countries: shipments to Latin America have shrunk 40%. To be sure, only about half of this year's import growth is due to the strong dollar; the rest is meeting the needs of a growing economy. And official statistics probably understate income from investments and services sold abroad. But the deficit is bad enough. ■

BALANCE OF PAYMENTS **current account** (surplus/deficit in $ billions)



SOURCE: OECD



DEVELOPING COUNTRIES' DEBT
as percent of exports

SOURCE: MORGAN GUARANTY TRUST CO.

THE INTERNATIONAL 500

THE FORTUNE DIRECTORY OF THE LARGEST INDUSTRIAL CORPORATIONS OUTSIDE THE U.S.

Last year marked a turning point for the International 500. Though sales were down by 3%, profits finally turned up after three years. Fewer companies lost money, but the basic industries—notably steel—were still hurting.

THE RECOVERY has been weaker and later for the 500 largest industrial companies outside the U.S. than for their American counterparts. But a few shafts of sunlight are finally breaking through. Though sales for the International 500 continued to slump, down 3% for 1983 following a drop of 2.6% the year before, profitability is returning. After declining for three straight years, including a worrisome 39% drop for 1982, profits rose 37%. There was less red ink: 91 companies lost money vs. 123 for the previous year.

Since the companies are ranked according to sales expressed in U.S. dollars, the decline of major European currencies against the dollar lowered the reported sales of European companies. Japanese companies, on the other hand, got a bit of a boost as the yen strengthened against the dollar. The recovery was strongest in such industries as chemicals, petroleum, pharmaceuticals, and electronics. Basic industries such as steel continued for the most part to lose money, though the deficits were smaller.

Royal Dutch/Shell held on to its distinction as the largest industrial company outside the U.S. for the 28th straight year, though sales were down $3.2 billion, to $80.5 billion. That drop was less than Exxon's $8.6 billion, so the gap between Royal Dutch/Shell and the U.S. giant, which is the world's biggest company, narrowed. British Petroleum was again No. 2 outside the U.S., and ENI, Italy's government-owned oil company, stayed in third place. Mexico's national oil company, Pemex, busily pumping oil to rescue the country's creditworthiness, jumped from No. 21 to No. 12, though along with ENI it lost money. Not all oil companies, however, managed to hold on to their top spots this year. Petróleos de Venezuela dropped out of the top 20, slipping all the way to No. 68, mostly because of unfavorable exchange rates.

The biggest loser was YPF, Argentina's state-owned oil company. A perennial producer of red ink, YPF this time racked up a loss of $4.6 billion. In second place was British Steel, another regular in the debit column, with a loss of $1.4 billion.

Toyota Motor raced to No. 6, up ten slots from last year, mainly because of an accounting change that shows the company's true size. Toyota Motor and Toyota Motor Sales, the company's vast marketing organization, used to report separate financial figures. Last year they consolidated sales and earnings. Nissan Motor stalled, dropping five places to No. 15. Surging sales of Matsushita Electric Industrial, in contrast, moved the company up from No. 20 to ninth. Two West German chemical companies, Bayer and Hoechst, climbed into the top 20.

The French, champion losers last year, are still struggling. Three French companies left the 500 because of declining sales. The 38 remaining had an overall loss of $1.5 billion, compared with $2.1 billion the year before.

Of the 32 subsidiaries of U.S. companies on the International 500, IBM was the heaviest hitter. IBM's West German, French, British, and Japanese units had sales of $12.9 billion, up 14.3%, and net income of $905 million, an increase of 13.5%.

While major industrial nations such as Japan, Britain, West Germany, and France continue to dominate the rankings, the

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

Ranked by sales

FORTUNE'S WORLD LIST shows how lopsided the recovery has been. Net income of the 50 largest industrial companies rose 20% on a 2.3% decline in sales, but the big boost in profitability came from the U.S., especially the booming auto business. Profits of the 23 U.S. companies in the ranking climbed about 30%, while those of non-U.S. outfits dropped 1.6%.

Cars made all the difference. U.S. domestic sales rose 18%, giving the industry a 119% increase in profits. Everybody but American Motors made money, and some of the increases were enormous. Chrysler's stunning comeback produced a 312% increase in net income. General Motors made $3.7 billion, and Ford earned $1.9 billion.

The 19 oil companies among the 50 did their part in raising profits. In a world still awash in oil, sales fell by $73 billion, or 11%. But with some notable exceptions, oil companies generally managed to increase profits. ENI, the Italian state oil company, lost $929 million. But that was down from $1.2 billion. ENI lost its dubious distinction of top money loser among the 50 to U.S. Steel, which ran up a $1.2-billion loss.

Chrysler's performance put it back on the list, in the No. 44 spot. Volvo, reflecting a comeback among some European automakers, also made the list, in 45th place. Other newcomers were Procter & Gamble (No. 47) and R.J. Reynolds Industries (No. 49). Toyota Motor and Matsushita Electric Industrial both climbed an impressive 15 places.

Rank '83	Rank '82	Company	Headquarters	Sales $000	Net income $000
1	1	**Exxon**	New York	88,561,134	4,977,957
2	2	**Royal Dutch/Shell Group**	The Hague/London	80,550,885	4,174,736
3	3	**General Motors**	Detroit	74,581,600	3,730,200
4	4	**Mobil**	New York	54,607,000	1,503,000
5	5	**British Petroleum**	London	49,194,886	1,562,873
6	7	**Ford Motor**	Dearborn, Mich.	44,454,600	1,866,900
7	8	**International Business Machines**	Armonk, N.Y.	40,180,000	5,485,000
8	6	**Texaco**	Harrison, N.Y.	40,068,000	1,233,000
9	10	**E.I. du Pont de Nemours**	Wilmington, Del.	35,378,000	1,127,000
10	12	**Standard Oil (Ind.)**	Chicago	27,635,000	1,868,000
11	9	**Standard Oil of California**	San Francisco	27,342,000	1,590,000
12	14	**General Electric**	Fairfield, Conn.	26,797,000	2,024,000
13	11	**Gulf Oil**	Pittsburgh	26,581,000	978,000
14	15	**Atlantic Richfield**	Los Angeles	25,147,036	1,547,875
15	13	**ENI**	Rome	25,022,358	(928,925)
16	16	**IRI**	Rome	24,518,447	N.A.
17	17	**Unilever**	London/Rotterdam	20,291,583	583,614
18	33	**Toyota Motor**	Toyota City (Japan)	19,741,094	918,421
19	18	**Shell Oil**	Houston	19,678,000	1,633,000
20	22	**Occidental Petroleum**	Los Angeles	19,115,700	566,700
21	19	**Française des Pétroles**	Paris	18,350,186	101,548
22	23	**Elf-Aquitaine**	Paris	18,188,156	488,451
23	21	**U.S. Steel**	Pittsburgh	16,869,000	(1,161,000)
24	39	**Matsushita Electric Industrial**	Osaka (Japan)	16,719,440	766,060
25	20	**Petrobrás (Petróleo Brasileiro)**	Rio de Janeiro	16,258,011	485,888
26	28	**Philips' Gloeilampenfabrieken**	Eindhoven (Netherlands)	16,176,941	226,631
27	40	**Pemex (Petróleos Mexicanos)**	Mexico City	16,140,013	(5,238)
28	27	**Hitachi**	Tokyo	15,804,301	603,287
29	24	**Siemens**	Munich	15,724,273	296,074
30	25	**Nissan Motor**	Yokohama (Japan)	15,697,733	416,337
31	36	**Volkswagenwerk**	Wolfsburg (Germany)	15,693,352	(51,083)
32	29	**Daimler-Benz**	Stuttgart	15,660,437	404,580
33	32	**Phillips Petroleum**	Bartlesville, Okla.	15,249,000	721,000
34	34	**Sun**	Radnor, Pa.	14,730,000	453,000
35	45	**United Technologies**	Hartford	14,669,265	509,173
36	43	**Bayer**	Leverkusen (Germany)	14,615,594	295,889
37	42	**Hoechst**	Frankfurt	14,558,235	128,987
38	31	**Renault**	Paris	14,467,765	(206,769)
39	37	**Fiat**	Turin (Italy)	14,466,548	N.A.
40	38	**Tenneco**	Houston	14,353,000	716,000
41	30	**ITT**	New York	14,155,408	674,510
42	44	**Nestlé**	Vevey (Switzerland)	13,303,618	600,360
43	48	**BASF**	Ludwigshafen on Rhine	13,250,424	202,464
44	•	**Chrysler**	Highland Park, Mich.	13,240,399	700,900
45	•	**Volvo**	Goteberg (Sweden)	12,963,008	26,588
46	50	**Imperial Chemical Industries**	London	12,750,075	573,003
47	•	**Procter & Gamble**	Cincinnati, Ohio	12,452,000	866,000
48	35	**BAT Industries**	London	12,083,087	475,987
49	•	**R.J. Reynolds Industries**	Winston-Salem, N.C.	11,957,000	881,000
50	46	**Mitsubishi Heavy Industries**	Tokyo	11,916,259	98,396
		Totals		**1,211,907,851**	**46,729,374**

☐ **U.S. companies**

☐ **Non-U.S. companies**

16 newcomers include Taiwan-based China Steel, which doubled its sales in one year to become No. 472, and Pakistan State Oil, No. 463. Zaire's GECAMINES mining conglomerate returned to the list after several years' absence, as did Zambia Industrial & Mining.

Accounting methods in various countries are not always comparable. FORTUNE requires that candidates for the 500 submit figures in the form in which they are presented to stockholders or to the public in their countries. Companies must also supply published documentation. In prior years companies that have failed to do so were dropped, as was South Korea's Daewoo Industrial Group, No. 155 in 1978. This year FORTUNE welcomes the company back to its list, accompanied by published accounts. A vigorous grower, Daewoo now ranks No. 62.

—Darienne L. Dennis and Royce D. Wolfe

THE INTERNATIONAL 500 ranked by sales

RANK '83	RANK '82	COMPANY	COUNTRY	INDUSTRY	SALES[1] $000	ASSETS[2] $000	NET INCOME[3] $000	STOCKHOLDERS' EQUITY[4] $000	EMPLOYEES
1	1	**Royal Dutch/Shell Group**	Neth./Britain	Petroleum	80,550,885	70,809,976	4,174,736	28,400,049	156,000
2	2	**British Petroleum**	Britain	Petroleum	49,194,886	39,443,061	1,562,873	13,989,557	131,600
3	3	**ENI[5]**	Italy	Petroleum	25,022,358[6]	19,263,164[6]	(928,925)[6]	2,776,268[6]	133,999[6]
4	4	**IRI[5]**	Italy	Metal mfg.—steel; shipbldg.; elec.; aerospace	24,518,447	N.A.	N.A.	N.A.	515,900
5	5	**Unilever**	Britain/Neth.	Food products; soaps, cosmetics	20,291,583	11,217,192	583,614	4,425,623	267,000
6	16	**Toyota Motor[7]**	Japan	Motor vehicles	19,741,094	13,454,451	918,421	7,897,789	57,800
7	6	**Française des Pétroles**	France	Petroleum	18,350,186[6]	11,008,398[6]	101,548[6]	2,771,446[6]	46,824[6]
8	8	**Elf-Aquitaine[5]**	France	Petroleum	18,188,156[6]	18,021,116[6]	488,451[6]	4,089,622[6]	77,600[6]
9	20	**Matsushita Electric Industrial[8]**	Japan	Electronics, appliances	16,719,440	14,624,255	766,060	6,789,888	124,825
10	7	**Petrobrás (Petróleo Brasileiro)[5]**	Brazil	Petroleum	16,258,011	14,038,029	485,888	4,265	56,835
11	13	**Philips' Gloeilampenfabrieken**	Netherlands	Electronics, appliances	16,176,941	15,596,995	226,631	4,999,020	343,000
12	21	**Pemex (Petróleos Mexicanos)[5]**	Mexico	Petroleum	16,140,013[*,9]	32,598,710[*,9]	(5,238)[*,9]	13,966,462[*,9]	157,000[*,9]
13	12	**Hitachi[10]**	Japan	Electronics, appliances; office equipment	15,804,301	17,402,603	603,287	542,460	155,582
14	9	**Siemens[11]**	Germany	Electronics; computers	15,724,273	15,368,048	296,074	3,860,570	313,000
15	10	**Nissan Motor[10]**	Japan	Motor vehicles	15,697,733	13,440,318	416,337	4,783,485	108,102
16	18	**Volkswagenwerk**	Germany	Motor vehicles	15,693,352	10,590,384	(51,083)	2,295,548	231,710
17	14	**Daimler-Benz**	Germany	Motor vehicles and parts	15,660,437	9,110,732	404,580	2,688,446	184,877
18	24	**Bayer**	Germany	Chemicals	14,615,594[6]	10,966,403[6]	295,889[6]	2,659,316[6]	174,760[6]
19	23	**Hoechst**	Germany	Chemicals	14,558,235[6]	9,734,862[6]	128,987[6]	2,280,991[6]	179,849[6]
20	15	**Renault[5]**	France	Motor vehicles and parts	14,467,765[6]	10,816,437[6]	(206,769)[6]	1,339,412[6]	210,000[6]
21	19	**Fiat**	Italy	Motor vehicles and parts	14,466,548	N.A.	N.A.	N.A.	243,808
22	25	**Nestlé**	Switzerland	Food products; beverages	13,303,618[6]	9,402,937[6]	600,360[6]	4,935,291[6]	140,400[6]
23	27	**BASF**	Germany	Chemicals	13,250,424[6]	8,026,053[6]	202,464[6]	2,889,658[6]	114,128[6]
24	32	**Volvo**	Sweden	Motor vehicles and parts; energy	12,963,008	6,679,900	26,588	696,629	76,206
25	29	**Imperial Chemical Industries**	Britain	Chemicals	12,750,075	11,061,881	573,003	4,850,913	117,900
26	17	**BAT Industries**	Britain	Tobacco	12,083,087	10,021,156	475,987	4,961,227	187,173
27	26	**Mitsubishi Heavy Industries[10]**	Japan	Motor vehicles; industrial equipment	11,916,259	17,390,937	98,396	1,402,573	96,562
28	22	**Nippon Steel[10]**	Japan	Metal manufacturing—steel	11,605,901	15,873,126	142,467	2,715,410	74,153
29	28	**Thyssen[11]**	Germany	Metal mfg.—steel; industrial equipment	11,301,248	6,773,527	(221,491)	863,329	137,537
30	33	**Peugeot**	France	Motor vehicles and parts	11,244,484[6]	7,635,393[6]	(339,804)[6]	685,303[6]	203,000[6]
31	45	**General Motors of Canada**	Canada	Motor vehicles and parts	11,200,522[12]	2,432,815	548,098	1,188,705	43,410
32	30	**Idemitsu Kosan[10]**	Japan	Petroleum	10,770,203[9]	6,944,080[9]	137,253[9]	133,291[9]	7,041[9]
33	31	**Kuwait Petroleum[5,7]**	Kuwait	Petroleum	10,744,273	13,799,974	1,055,827	9,028,429	14,240
34	36	**Canadian Pacific**	Canada	Metal manufacturing—steel; mining	10,351,766	14,143,792	116,498	3,256,385	121,127
35	34	**Toshiba[10]**	Japan	Electronics, appliances	9,482,937	9,794,498	154,041	1,767,565	103,000
36	39	**Esso UK[13]**	Britain	Petroleum	9,448,316	5,793,872	635,856	405,450	6,619
37	41	**Hyundai Group**	South Korea	Shipbuilding; motor vehicles; industrial equip.	9,300,429	69,800,475	149,494	1,156,319	146,000
38	43	**Indian Oil[5,10]**	India	Petroleum	9,069,891	2,618,119	121,447	695,685	27,927
39	40	**Honda Motor[14]**	Japan	Motor vehicles and parts	8,771,902	5,558,243	289,215	2,020,151	46,238
40	37	**Petrofina**	Belgium	Petroleum	8,717,574	5,576,152	275,817	1,217,475	2,100
41	38	**National Coal Board[5,10]**	Britain	Mining—coal	8,242,117	8,158,197	(185,498)	(42,992)	268,000
42	35	**CGE (Cie. Générale d'Electricité)[5]**	France	Electronics, appliances	8,195,173[6]	10,125,987[6]	52,611[6]	715,585[6]	148,700[6]
43	42	**General Electric Co.[10]**	Britain	Electronics; industrial equipment	7,730,745	6,788,071	649,409	3,361,865	178,000
44	44	**Saint-Gobain[5]**	France	Building materials; metal products	7,595,596[6]	6,047,510[6]	53,135[6]	1,597,001[6]	133,583[6]
45	46	**Veba Oel**	Germany	Petroleum; chemicals	7,570,949[6]	2,440,560[6]	5,208[6]	526,568[6]	23,225[6]
46	60	**Rio Tinto-Zinc**	Britain	Mining—alum., lead, zinc, copper, iron	7,292,903	11,089,170	170,082	2,975,430	73,844
47	53	**Imperial Oil**	Canada	Petroleum	7,236,088[12]	6,467,658	235,280	3,399,759	14,732
48	48	**Ruhrkohle**	Germany	Mining—coal	7,195,761	5,434,371	15,293	242,536	130,001
49	67	**Samsung Group**	South Korea	Electronics, appliances; food prod.; textiles	7,167,315	5,452,795	81,568	790,851	102,255
50	82	**Lucky Group**	South Korea	Petroleum; electronics, appliances	7,159,333	4,124,667	70,391	708,052	53,005

• Not on last year's list.

N.A. Not available.

[*] Fortune estimate.

[1] All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales do not include excise taxes or customs duties levied according to either volume or value of sales, and so the figures for some companies—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the companies themselves. Unless otherwise noted, figures exclude intracompany transactions and include consolidated subsidiaries more than 50% owned, either fully or on a prorated basis. Figures have been converted to dollars using an exchange rate that consists of the average rate in the official exchange market during each company's fiscal year (ended December 31, 1983, unless otherwise noted).

[2] Total shown at each company's year-end. Figures have been converted to dollars at the market rate prevailing at each company's year-end.

[3] After taxes, minority interest, and extraordinary items. Figures have been converted to dollars at the average market rate during each company's fiscal year. Figures in parentheses are losses.

[4] Total at each company's year-end. Figures have been converted to dollars at the market rate prevailing at each company's year-end. Minority interest is not included.

[5] Government-owned.

[6] Also includes certain subsidiaries owned 50% or less, either fully or on a prorated basis.

[7] Figures are for fiscal year ended June 30, 1983

[8] Figures are for fiscal year ended November 20, 1983.

RANK		COMPANY	COUNTRY	INDUSTRY	SALES[1]	ASSETS[2]	NET INCOME[3]	STOCKHOLDERS' EQUITY[4]	EMPLOYEES
'83	'82				$000	$000	$000	$000	
51	55	**Ciba-Geigy**	Switzerland	Chemicals; pharmaceuticals	7,018,167	9,054,612	369,452	5,539,697	79,173
52	57	**Montedison**	Italy	Chemicals	7,014,483[6]	6,458,333[6]	(211,882)[6]	737,923[6]	72,813[6]
53	68	**Ford Motor of Canada**	Canada	Motor vehicles and parts	6,961,541[12]	1,813,258	123,806	591,884	33,500
54	54	**DSM**[5]	Netherlands	Natural gas; chemicals	6,926,030[6]	3,348,380[6]	57,328[6]	708,105[6]	27,885[6]
55	104	**YPF (Yacimientos Petróliferos)**[5]	Argentina	Petroleum	6,782,765	11,147,265	(4,643,995)	N.A.	32,773
56	52	**Fried. Krupp**	Germany	Metal mfg.—steel; industrial equipment	6,761,591	3,713,962	(117,952)	608,259	69,291
57	69	**Barlow Rand**[11]	South Africa	Food products; mining—coal, chrome, gold	6,747,692	5,123,868	222,370	1,391,198	139,261
58	47	**Maruzen Oil**[10]	Japan	Petroleum	6,638,171	3,964,393	42,852	(347,795)	3,586
59	90	**VÖEST-Alpine** [5]	Austria	Metal manufacturing	6,632,500	5,229,414	(2,062)	25,274	72,288
60	50	**Thomson**[5,15]	France	Electronics, appliances	6,492,743[6]	6,635,753[6]	(140,776)[6]	331,494[6]	110,000[6]
61	51	**Esso**	Germany	Petroleum	6,397,340[12]	1,907,043	117,459	478,349	4,216
62	●	**Daewoo Industrial**	South Korea	Shipbldg.; textiles; elec. appl.; indus. equip.	6,313,466	5,153,847	68,648	710,547	15,000
63	49	**Nippon Kokan**[10]	Japan	Metal manufacturing—steel	6,267,271	10,658,335	103,815	1,232,937	38,577
64	62	**Sunkyong**	South Korea	Petroleum; textiles; chemicals	6,210,191	2,362,308	41,050	374,259	19,001
65	63	**Mitsubishi Electric**[10]	Japan	Electronics, appliances	6,127,766	5,945,184	140,347	1,277,460	64,432
66	94	**Toyo Kogyo**[16]	Japan	Motor vehicles	6,050,038	3,502,786	113,444	879,547	40,000
67	64	**Grand Metropolitan**[11]	Britain	Beverages; food products	6,044,617	5,223,229	325,078	2,345,997	136,297
68	11	**Petróleos de Venezuela**[5]	Venezuela	Petroleum	6,012,156	8,292,709	712,041	7,085,769	44,475
69	91	**Adam Opel**	Germany	Motor vehicles and parts	5,871,961*	N.A.	N.A.	N.A.	59,379
70	80	**NEC**[10,17]	Japan	Electronics, appliances	5,783,079	6,909,038	132,372	1,198,975	73,080
71	77	**Rhône-Poulenc**[5]	France	Chemicals	5,656,879[6]	4,726,095[6]	12,857[6]	935,213[6]	81,000[6]
72	72	**George Weston Holdings**[10]	Britain	Food products	5,642,132	2,153,792	102,271	712,202	68,924
73	74	**Robert Bosch**	Germany	Motor vehicle parts; electronics, appliances	5,618,211	4,001,070	78,491	1,236,017	109,725
74	76	**Nippon Mining**[10]	Japan	Petroleum; metal manufacturing—nonferrous	5,612,031	4,068,402	19,481	282,439	8,415
75	65	**Schlumberger**	Neth. Antilles	Measuring and scientific equipment	5,513,246	8,353,239	1,084,299	5,818,850	69,000
76	56	**Mannesmann**	Germany	Metal products; industrial equipment	5,509,361	3,788,126	29,903	1,129,056	104,795
77	58	**Sumitomo Metal Industries**[10]	Japan	Metal manufacturing—steel	5,492,402	9,059,498	129,106	1,358,264	35,693
78	70	**Ford Motor**	Britain	Motor vehicles	5,434,433[12]	4,654,960	(156,136)	1,762,121	63,900
79	59	**British Steel**[5,10]	Britain	Metal manufacturing—steel	5,399,489	5,185,785	(1,452,230)	3,205,165	81,100
80	78	**Michelin**	France	Rubber products	5,390,093[6]	6,677,475[6]	(285,757)[6]	1,326,921[6]	120,000[6]
81	79	**Chinese Petroleum**[5]	Taiwan	Petroleum	5,313,672[9]	4,018,348[9]	432,414[9]	1,986,934[9]	19,521[9]
82	88	**Akzo Group**	Netherlands	Chemicals	5,283,786	3,532,103	149,954	968,975	66,300
83	75	**Toa Nenryo Kogyo**	Japan	Petroleum	5,259,645	3,435,183	166,030	929,443	3,936
84	95	**Ford-Werke**	Germany	Motor vehicles and parts	5,227,533[12]	2,030,776	58,961	393,688	48,029
85	85	**BL**[5]	Britain	Motor vehicles	5,185,374	3,635,717	(229,656)	981,649	101,346
86	97	**Brown Boveri**	Switzerland	Electrical and industrial equip., electronics	5,074,257[6]	7,480,037*,[6]	140,449[6]	436,439[6]	90,600[6]
87	87	**Daikyo Oil**[10]	Japan	Petroleum	5,004,090	2,220,042	41,628	49,476	1,956
88	61	**Gutehoffnungshütte**[7]	Germany	Industrial and transportation equipment	4,988,056	4,870,412	(34,998)	592,478	62,670
89	89	**Mitsubishi Oil**[10]	Japan	Petroleum	4,916,879	3,425,059	92,758	71,720	3,376
90	86	**Kobe Steel**[10]	Japan	Metal manufacturing—steel	4,885,412[9]	7,041,975[9]	47,369[9]	749,531[9]	32,760[9]
91	109	**Sanyo Electric**[18]	Japan	Electronics, appliances	4,774,860	4,426,275	142,342	1,442,396	22,776
92	114	**BMW (Bayerische Motoren Werke)**	Germany	Motor vehicles and parts	4,675,261	2,128,292	114,163	590,880	43,169
93	121	**Texaco Canada**	Canada	Petroleum	4,645,570[12]	2,642,025	279,091	1,464,042	3,904
94	99	**Dalgety**[7]	Britain	Food products	4,587,804	1,303,203	51,657	478,909	21,243
95	71	**Kawasaki Steel**[10]	Japan	Metal manufacturing—steel	4,581,474[9]	7,479,854[9]	74,896[9]	1,326,711[9]	29,268[9]
96	103	**Sony**[16,19]	Japan	Electronics, appliances	4,544,500	5,258,009	123,876	2,043,542	42,654
97	101	**Thorn EMI**[10]	Britain	Electronics, appliances	4,538,679	2,721,573	68,016	896,468	91,544
98	83	**AEG-Telefunken**	Germany	Electronics, appliances	4,512,314[6]	3,242,906[6]	21,880[6]	299,528[6]	76,600[6]
99	125	**Degussa**[11]	Germany	Metal products; chemicals	4,420,680	1,434,073	35,814	259,322	21,369
100	98	**ENPETROL**[5]	Spain	Petroleum; chemicals	4,399,869	2,255,673	2,775	523,930	7,683

● Not on last year's list.
N.A. Not available.
* Fortune estimate.
[9] Parent only.
[10] Figures are for fiscal year ended March 31, 1983.
[11] Figures are for fiscal year ended September 30, 1983.
[12] Revenues include certain sales to foreign affiliates of the U.S. parent company.
[13] Name changed from Esso Petroleum on January 1, 1983.
[14] Figures are for fiscal year ended February 28, 1983.
[15] Name changed from Thomson-Brandt on December 20, 1983.
[16] Figures are for fiscal year ended October 31, 1983.
[17] Name changed from Nippon Electric on April 1, 1983.
[18] Figures are for fiscal year ended November 30, 1983.
[19] Includes only wholly owned subsidiaries.

THE INTERNATIONAL 500

RANK		COMPANY	COUNTRY	INDUSTRY	SALES[1]	ASSETS[2]	NET INCOME[3]	STOCKHOLDERS' EQUITY[4]	EMPLOYEES
'83	'82				$000	$000	$000	$000	
101	100	**Taiyo Fishery[20]**	Japan	Food products	4,295,935	187,738	(12,114)	66,175	9,789
102	84	**Broken Hill Proprietary[21]**	Australia	Metal manufacturing—steel	4,288,760	6,817,864	216,731	3,726,849	54,000
103	105	**Sacilor[5]**	France	Metal manufacturing—steel	4,285,825[6]	5,418,024[6]	(710,785)[6]	(327,970)[6]	66,410[6]
104	96	**Mitsubishi Chemical Indus.[20]**	Japan	Chemicals	4,283,144	4,454,964	(58,708)	405,958	15,004
105	129	**Neste[5]**	Finland	Petroleum	4,264,702	2,283,243	11,121	103,804	7,176
106	111	**Usinor[5]**	France	Metal manufacturing—steel	4,262,710[6]	4,917,729[6]	(713,874)[6]	1,553,904[6]	59,250[6]
107	102	**Alcan Aluminium**	Canada	Metal manufacturing—aluminum	4,225,311	5,303,335	59,226	2,249,096	70,000
108	93	**Electrolux**	Sweden	Electronics, appliances	4,189,713	2,937,203	40,534	518,851	88,800
109	123	**Gulf Canada**	Canada	Petroleum	4,119,840[12]	4,107,674	176,866	1,883,487	9,714
110	124	**IBM Deutschland**	Germany	Office equipment (includes computers)	4,119,322[12]	2,668,681	266,453	513,761	27,290
111	151	**Norsk Hydro[5]**	Norway	Chemicals; petroleum	4,077,339	3,240,726	66,839	580,804	18,838
112	113	**ASEA**	Sweden	Electronics, appliances; indus. equipment	3,939,863	4,016,854	39,752	504,994	56,660
113	112	**Metallgesellschaft[11]**	Germany	Metal manufacturing—nonferrous	3,900,415	1,786,418	9,651	237,650	22,123
114	128	**Flick Group**	Germany	Paper and wood products; chemicals	3,894,780	2,791,406	114,116	701,140	42,560
115	118	**Solvay**	Belgium	Chemicals; plastics	3,886,019[6]	3,059,325[6]	84,763[6]	968,372[6]	44,186[6]
116	119	**Showa Oil**	Japan	Petroleum	3,868,399[9]	2,384,804[9]	200,329[9]	70,768[9]	1,812[9]
117	92	**Imperial Group[16]**	Britain	Tobacco; food; beverages	3,849,698*	3,011,333	124,139	1,325,495	97,539
118	81	**Türkiye Petrolleri[5]**	Turkey	Petroleum	3,837,624	3,190,872	299,299	647,212	15,417
119	132	**Fujitsu[10]**	Japan	Office equipment (includes computers); elect.	3,834,482	4,198,506	193,423	1,470,837	52,593
120	106	**Pechiney[5,22]**	France	Metal manufacturing—aluminum, steel	3,805,972[6]	4,066,395[6]	(60,771)[6]	617,217[6]	49,160[6]
121	116	**Salzgitter[5,11]**	Germany	Metal manufacturing—steel; shipbuilding	3,774,092	3,181,623	272,863	234,529	51,491
122	107	**Ishikawajima-Harima Hvy. Ind.[10]**	Japan	Industrial equipment; shipbuilding	3,738,225[6]	7,215,314[6]	49,445[6]	539,490[6]	41,000[6]
123	108	**Pirelli**	Switzerland	Rubber products	3,730,231	N.A.	N.A.	N.A.	68,000
124	122	**Allied-Lyons[14]**	Britain	Beverages; food products	3,693,594	2,928,078	152,908	1,493,178	74,190
125	110	**Mobil Oil**	Germany	Petroleum	3,692,389[9,12]	1,326,230[9]	32,958[9]	401,468[9]	2,451[9]
126	135	**IBM France**	France	Office equipment (includes computers)	3,673,509	1,888,518	226,892	658,011	21,047
127	177	**Statoil[5]**	Norway	Petroleum	3,602,889	4,226,978	187,369	381,777	3,534
128	133	**Roche/Sapac**	Switzerland	Pharmaceuticals; chemicals	3,575,547	5,251,492	1,563,507	3,353,924	45,852
129	127	**Esso Italiana**	Italy	Petroleum	3,534,970[9,12]	748,510[9]	(19,407)[9]	59,462[9]	2,639[9]
130	131	**Asahi Chemical Industry[10]**	Japan	Chemicals; textiles	3,502,996	3,465,523	25,215	713,226	21,080
131	73	**Esso**	France	Petroleum	3,497,013[12]	1,556,269	51,128	173,269	4,336
132	158	**Chrysler Canada**	Canada	Motor vehicles and parts	3,487,345	787,696	96,317	66,266	12,028
133	130	**British Aerospace**	Britain	Aerospace	3,486,981	3,010,556	124,757	1,072,804	77,980
134	148	**ALUSUISSE (Swiss Aluminium)**	Switzerland	Metal manufacturing—aluminum	3,438,383	4,157,641	(39,040)	1,211,840	34,446
135	153	**Sharp[10]**	Japan	Electronics, appliances	3,438,090	3,274,067	119,328	1,072,565	24,692
136	150	**L.M. Ericsson Telephone**	Sweden	Electronics—telecommunications	3,359,499[6]	3,820,949[6]	66,483[6]	776,417[6]	70,800[6]
137	147	**Esso**	Belgium	Petroleum; chemicals	3,327,427[9,12]	429,719[9]	44,092[9]	151,385[9]	1,443
138	139	**BSN**	France	Food products; beverages	3,265,395[6]	2,056,029[6]	97,218[6]	677,265[6]	38,007[6]
139	161	**Ssangyong Cement Industrial**	South Korea	Petroleum; building materials	3,256,599	2,797,733	2,512	516,310	14,653
140	120	**Kawasaki Heavy Industries[10]**	Japan	Ind. equip.; shipbldg.; transport. equip.	3,251,212	4,842,259	19,705	350,962	28,374
141	172	**Petro-Canada[5]**	Canada	Petroleum	3,210,252	6,620,350	89,832	2,882,800	6,601
142	164	**Bridgestone Tire**	Japan	Rubber products	3,207,559	2,858,822	77,079	1,079,305	32,308
143	134	**Courtaulds[10]**	Britain	Textiles	3,184,378	1,707,099	5,515	516,799	73,000
144	144	**Komatsu**	Japan	Industrial equipment	3,160,862	3,833,940	110,615	1,454,830	23,752
145	143	**Aérospatiale[5]**	France	Aerospace	3,152,012[9]	5,178,175[9]	(46,903)[9]	157,361[9]	35,463[9]
146	176	**Ultramar**	Britain	Petroleum	3,118,319	2,698,048	185,089	969,167	3,733
147	157	**Sandoz**	Switzerland	Pharmaceuticals; dyes	3,116,540	3,176,687	152,351	1,751,721	38,109
148	145	**Canada Development Corp.**	Canada	Chemicals	3,111,137	6,073,604	36,509	925,432	18,605
149	165	**NOVA, AN ALBERTA CORP.**	Canada	Petroleum; petrochemicals	3,101,648	5,460,873	28,500	1,157,348	8,600
150	142	**Snow Brand Milk Products[10]**	Japan	Food products	3,089,753	1,273,502	10,299	188,322	14,920

● Not on last year's list.
N.A. Not available.
* Fortune estimate.
[20] Figures are for fiscal year ended January 31, 1983.
[21] Figures are for fiscal year ended May 31, 1983.
[22] Name changed from Pechiney Ugine Kuhlmann on September 15, 1983.

RANK		COMPANY	COUNTRY	INDUSTRY	SALES[1]	ASSETS[2]	NET INCOME[3]	STOCKHOLDERS' EQUITY[4]	EMPLOYEES
'83	'82				$000	$000	$000	$000	
151	140	**Cockerill Sambre [5]**	Belgium	Metal manufacturing—steel	3,088,789[6]	2,844,714[6]	(658,907)[6]	44,442[6]	36,966[6]
152	154	**Isuzu Motors[16]**	Japan	Motor vehicles and parts	3,088,142	3,395,185	(21,885)	356,736	21,032
153	166	**Sumitomo Chemical**	Japan	Chemicals	3,066,667	3,316,461	14,601	449,193	10,255
154	126	**CEPSA (Española de Petróleos)**	Spain	Petroleum	3,063,729[9]	1,116,479[9]	18,345[9]	113,511[9]	4,422[9]
155	146	**Reed International[10]**	Britain	Publishing, printing; paper, pulp	3,023,112	1,735,266	34,760	884,459	57,800
156	136	**Texaco**	Britain	Petroleum	3,005,603[12]	1,347,318	(201,035)	213,868	5,237
157	141	**Guest Keen & Nettlefolds**	Britain	Motor vehicle parts	2,993,107	2,270,727	18,039	1,026,356	54,000
158	367	**BTR[23]**	Britain	Industrial equipment; build. materials	2,985,528	3,026,958	152,498	1,004,583	62,000
159	194	**Nippondenso**	Japan	Motor vehicle parts	2,961,173	2,685,576	139,245	1,527,203	34,607
160	138	**Deutsche Texaco**	Germany	Petroleum	2,938,815[12]	1,047,765	27,649	254,199	4,505
161	186	**Koç Holding**	Turkey	Motor vehicles and parts; metal prod.	2,928,141*	1,069,802*	58,847*	150,791*	28,448*
162	171	**Steel Authority of India[5,10]**	India	Metal manufacturing—steel	2,926,635	7,094,708	(10,958)	3,304	205,626
163	160	**Koor Industries**	Israel	Electronics; fabricated metal prod.; food	2,900,000	2,600,000	60,000	510,000	34,200
164	149	**Toray Industries[10]**	Japan	Chemicals	2,897,625	3,056,787	35,939	784,310	34,342
165	152	**BICC**	Britain	Industrial equipment	2,882,599	1,474,869	36,078	454,755	49,771
166	173	**Beecham Group[10]**	Britain	Pharmaceuticals; soaps, cosmetics; beverages	2,844,967	2,311,366	250,506	1,094,530	35,400
167	215	**Deutsche Babcock[11]**	Germany	Metal products; industrial equipment	2,822,181	1,756,613	9,226	161,406	24,784
168	187	**Asahi Glass**	Japan	Building materials; chemicals	2,784,277	2,861,381	96,439	1,119,020	16,691
169	193	**EFIM[5]**	Italy	Metal manufacturing; aerospace; metal prod	2,780,130	N.A.	(509,307)	N.A.	41,949
170	163	**Unigate[10]**	Britain	Food products	2,777,620	1,107,724	28,744	439,413	35,100
171	212	**Canon**	Japan	Photographic equipment; office machines	2,768,328	3,135,969	119,691	1,142,119	27,266
172	156	**Saab-Scania**	Sweden	Motor vehicles	2,707,397	2,466,530	49,427	432,374	39,138
173	198	**Northern Telecom**	Canada	Telecommunications equipment	2,680,609	2,308,558	217,764	1,177,581	39,318
174	167	**BCC Group[11]**	Britain	Chemicals, gas; industrial equipment	2,655,561	3,582,049	65,546	1,553,714	39,100
175	137	**ÖMV[5]**	Austria	Petroleum	2,625,680	99,314	133	264,195	7,621
176	159	**Ranks Hovis Mcdougall[24]**	Britain	Food products	2,601,608	991,463	29,440	451,460	42,577
177	184	**Saarbergwerke[5]**	Germany	Petroleum; mining—coal	2,581,245[6]	1,884,262[6]	(81,067)[6]	214,945[6]	31,963[6]
178	169	**Cadbury Schweppes**	Britain	Food products; beverages	2,581,242	1,655,581	64,273	580,455	37,140
179	250	**IBM Japan**	Japan	Office equipment (includes computers)	2,578,368[9,12]	1,695,943[9]	188,372[9]	995,145[9]	14,189[9]
180	207	**Fuji Photo Film[25]**	Japan	Chemicals	2,558,598	3,063,785	242,058	1,665,092	16,314
181	225	**IBM United Kingdom Holdings**	Britain	Office equipment (including computers)	2,542,132[12]	1,495,045	222,835	834,612	16,000
182	181	**Bertelsmann[7]**	Germany	Publishing, printing	2,517,082[6]	1,233,331[6]	12,867[6]	196,721[6]	30,948[6]
183	219	**Noranda Inc.**	Canada	Metal manufacturing—nonferrous; mining	2,515,066	4,926,452	(28,071)	2,089,050	25,900
184	195	**Dai Nippon Printing[21]**	Japan	Publishing, printing	2,507,263	1,945,543	93,454	1,110,563	12,856
185	191	**Hiram Walker Resources[11]**	Canada	Beverages; petroleum	2,478,919	3,925,041	151,139	1,316,991	10,200
186	170	**Bowater**	Britain	Paper and wood products	2,459,820	1,909,448	(83,677)	600,050	30,500
187	155	**CSR[10]**	Australia	Sugar; mining; building materials; chemicals	2,459,274	2,342,046	79,899	1,140,142	14,703
188	196	**Olivetti**	Italy	Office equipment (includes computers)	2,458,503	3,092,472	194,336	725,896	47,800
189	209	**Conoco**	Britain	Petroleum	2,453,453[12]	1,154,233	121,422	638,660	1,911
190	227	**Rothmans International[10]**	Britain	Tobacco	2,447,735	2,201,784	118,533	455,658	21,655
191	●	**Oil & Natural Gas Commission[10]**	India	Petroleum	2,434,559	4,526,276	71,794	1,564,920	33,020
192	168	**Koa Oil[10]**	Japan	Petroleum	2,433,796[9]	1,620,447[9]	15,475[9]	160,289[9]	1,428[9]
193	175	**Dunlop Holdings**	Britain	Rubber products	2,429,957	1,628,583	(251,636)	181,437	53,000
194	201	**Canada Packers[10]**	Canada	Food products	2,423,489	4,529,569	16,925	228,315	15,000
195	236	**Korea Explosives Group**	South Korea	Petroleum; chemicals	2,416,578	2,032,220	47,049	482,258	15,541
196	185	**Kubota[26]**	Japan	Industrial and farm equip.; fab. met. prod.	2,413,325	2,621,831	54,658	1,082,205	18,500
197	162	**Philippine National Oil[5]**	Philippines	Petroleum	2,407,697	1,810,180	47,261	321,052	11,586
198	174	**Burmah Oil**	Britain	Petroleum; motor vehicle parts	2,393,425	1,402,730	21,677	494,526	22,984
199	192	**Lafarge Coppée**	France	Building materials	2,373,118[6]	2,320,731[6]	33,504[6]	312,649[6]	24,584[6]
200	202	**Rank Xerox[16]**	Britain	Office equipment	2,367,904	2,321,448	74,113	1,142,781	31,791

● Not on last year's list.
N.A. Not available.
* Fortune estimate.

[23] Acquired Thomas Tilling (1982 rank: 117) on June 8, 1983.

[24] Figures are for fiscal year ended August 31, 1983.

[25] Figures are for fiscal year ended October 20, 1983.

[26] Figures are for fiscal year ended April 15, 1983.

RANK '83	RANK '82	COMPANY	COUNTRY	INDUSTRY	SALES[1] $000	ASSETS[2] $000	NET INCOME[3] $000	STOCKHOLDERS' EQUITY[4] $000	EMPLOYEES
201	180	**Suzuki Motor[10]**	Japan	Motor vehicles and parts	2,367,571	1,615,803	5,033	350,954	17,700
202	282	**Formosa Plastics Group**	Taiwan	Chemicals	2,361,185	2,572,548	124,634	962,842	38,823
203	189	**Haci Ömer Sabanci Holding**	Turkey	Textiles; rubber products	2,334,894[6]	2,058,347[6]	44,085[6]	115,484[6]	26,000[6]
204	216	**Metal Box[10]**	Britain	Metal products	2,330,002	1,405,733	3,439	486,370	47,099
205	235	**Hanson Trust[11]**	Britain	Food products, build. materials	2,315,969	1,890,696	99,100	642,364	50,000
206	218	**Toppan Printing[21]**	Japan	Publishing, printing	2,315,282	1,482,340	62,552	654,122	11,700
207	203	**VIAG[5]**	Germany	Metal manufacturing—aluminum	2,309,547[6]	2,449,695[6]	31,684[6]	601,489[6]	24,435[6]
208	210	**MBB[19]**	Germany	Aerospace	2,299,851	2,170,642	35,896	233,346	36,800
209	190	**Bass[11]**	Britain	Beverages	2,295,525	2,677,588	175,883	1,722,355	71,207
210	211	**International Thomson Org.**	Canada	Petroleum; publishing, printing	2,279,126	1,591,312	109,143	523,690	22,000
211	214	**Fuji Heavy Industries[10]**	Japan	Motor vehicles; shipbuilding	2,275,607[9]	1,566,987[9]	56,967[9]	434,406[9]	13,737[9]
212	206	**Pohang Iron & Steel**	South Korea	Metal manufacturing—steel	2,255,655[9]	369,555[9]	67,093[9]	1,741,468[9]	14,625[9]
213	241	**Matsushita Electric Works[18]**	Japan	Electronics, appliances; building materials	2,250,016	154,677	5,956	752,465	15,354
214	226	**L'Air Liquide**	France	Chemicals, gases	2,243,414[6]	2,070,444[6]	106,781[6]	602,127[6]	5,713[6]
215	204	**Hitachi Zosen[10]**	Japan	Shipbuilding; industrial equipment	2,239,146	3,702,351	32,309	416,736	21,566
216	197	**Hawker Siddeley Group**	Britain	Industrial equipment; electronics	2,208,639	2,208,167	122,938	1,135,508	43,300
217	178	**Sumitomo Electric Industries[10]**	Japan	Fabricated metal products	2,203,996	2,015,289	45,177	577,192	20,295
218	200	**PETROGAL[5]**	Portugal	Petroleum	2,195,404[9]	2,802,284[9]	1,786[9]	271,000[9]	7,094[9]
219	245	**Jacobs Suchard**	Switzerland	Food products	2,173,547	872,158	52,472	309,595	11,225
220	66	**Schneider**	France	Industrial equipment; metal mfg.—steel	2,162,162[6]	4,856,521[6]	(63,579)[6]	81,224[6]	45,000[6]
221	230	**United Biscuits (Holdings)**	Britain	Food products	2,159,676	1,082,093	35,320	374,487	40,881
222	182	**Ube Industries[10]**	Japan	Chemicals; cement	2,156,948	3,108,038	6,517	221,515	14,621
223	256	**Chiyoda Chem. Eng. & Const.[11]**	Japan	Industrial equipment	2,133,231	1,529,866	142,079	345,203	3,766
224	199	**Furukawa Electric[10]**	Japan	Metal manufacturing—copper	2,128,303	2,442,059	(2,661)	310,155	14,566
225	217	**SKF**	Sweden	Metal products	2,127,440	2,317,978	28,022	645,693	42,710
226	221	**Hoogovens Groep**	Netherlands	Metal manufacturing—steel	2,118,523	1,669,366	(13,451)	279,980	28,537
227	242	**Nippon Suisan[10]**	Japan	Food products	2,116,729	1,066,033	15,774	185,477	6,290
228	238	**Hyosung Group**	South Korea	Textiles; industrial equipment	2,107,233	1,833,949	1,893	315,867	20,441
229	208	**Dome Petroleum**	Canada	Petroleum	2,105,029	6,571,314	(896,499)	(1,852,149)	6,700
230	213	**Klöckner-Werke[11]**	Germany	Metal manufacturing	2,091,070	1,861,341	(56,379)	286,539	27,850
231	183	**Iscor[5,7]**	South Africa	Metal manufacturing—steel	2,063,915[9]	3,494,343[9]	(219,079)[9]	1,759,021[9]	57,000[9]
232	251	**Toyobo[27]**	Japan	Textiles; chemicals	2,060,808	1,739,971	5,478	201,162	183,000
233	267	**Northern Foods[11]**	Britain	Food products	2,045,669	731,177	44,790	324,851	23,095
234	●	**Zambia Industrial & Mining[5,19]**	Zambia	Mining—copper; food products	2,032,725	4,450,467	(100,220)	843,260	124,161
235	247	**KUKjE**	South Korea	Rubber products; metal manufacturing—steel	2,028,869	1,618,558	8,102	107,367	43,033
236	232	**Teijin[10]**	Japan	Chemicals	2,023,779	2,298,590	53,773	397,870	11,393
237	237	**Chemische Werke Hüls**	Germany	Chemicals	2,020,087[9]	1,133,248[9]	0[9]	346,602[9]	15,968[9]
238	223	**Kirin Brewery[20]**	Japan	Beverages	2,017,669	2,278,057	76,676	835,510	10,861
239	179	**Rolls-Royce[5]**	Britain	Aerospace	2,017,638	1,567,620	(292,565)	438,353	42,300
240	224	**Sulzer Brothers**	Switzerland	Industrial equipment	1,982,474	3,012,391	(48,562)	1,398,348	32,192
241	229	**Takeda Chemical[10]**	Japan	Pharmaceuticals	1,981,427	2,471,594	104,556	1,216,640	13,362
242	222	**Kanebo[27]**	Japan	Textiles; soaps, cosmetics	1,966,005	2,068,666	(14,169)	45,892	6,490
243	205	**Yamaha Motor[27]**	Japan	Motor vehicles	1,964,531	2,207,264	(92,594)	220,063	10,027
244	233	**Oji Paper[10]**	Japan	Paper, pulp and wood products	1,954,376	1,885,255	27,427	396,079	10,031
245	220	**Lucas Industries[28]**	Britain	Motor vehicle parts	1,943,160	1,463,760	(20,441)	639,312	64,600
246	244	**Union International**	Britain	Food products	1,936,565	600,024	19,952	128,950	30,172
247	246	**Toyo Seikan[10]**	Japan	Fabricated metal products	1,932,423	1,455,523	55,769	443,385	13,593
248	269	**IMETAL**	France	Mining—nonferrous	1,931,058[6]	1,310,249[6]	(74,072)[6]	359,118[6]	15,000[6]
249	240	**Oerlikon-Bührle**	Switzerland	Industrial and farm equipment	1,907,774	83,295	(39,945)	1,461,083	31,226
250	249	**Ajinomoto[10]**	Japan	Food products	1,884,209	1,592,238	42,684	677,607	10,600

● Not on last year's list.

N.A. Not available.

[9] Fortune estimate.

[27] Figures are for fiscal year ended April 30, 1983.

[28] Figures are for fiscal year ended July 31, 1983.

RANK		COMPANY	COUNTRY	INDUSTRY	SALES[1]	ASSETS[2]	NET INCOME[3]	STOCKHOLDERS' EQUITY[4]	EMPLOYEES
'83	'82				$000	$000	$000	$000	
251	257	**Mobil Oil**	Britain	Petroleum	1,874,870[12]	978,790	(145,299)	337,583	3,276
252	281	**Daihatsu Motor**[7]	Japan	Motor vehicles and parts	1,868,412[*]	1,209,976[*]	19,557[*]	309,152[*]	10,721[*]
253	278	**Mobil Oil Italiana**	Italy	Petroleum	1,868,382[12]	N.A.	(17,798)	79,710	1,312
254	188	**Vallourec**	France	Metal products—steel tubes; build. materials	1,862,107[6]	908,998[6]	(54,018)[6]	282,310[6]	32,420[6]
255	228	**Empresa Colombiana de Petról.**[5]	Colombia	Petroleum	1,851,506	1,456,756	10,463	N.A.	7,916
256	252	**Avions Marcel Dassault-Breguet**[5]	France	Aerospace	1,835,071	3,709,058	51,661	290,822	15,799
257	248	**British Shipbuilders**[5,10]	Britain	Shipbuilding, transportation equipment	1,825,794	942,944	(213,718)	251,167	62,583
258	●	**Britoil**	Britain	Petroleum	1,821,028	252,996	217,226	474,205	2,725
259	261	**Moore**	Canada	Publishing, printing	1,813,573	1,151,953	100,306	754,999	26,100
260	274	**Métallurgie Hoboken-Overpelt**[11]	Belgium	Metal manufacturing—nonferrous	1,809,244[*]	857,696[*]	21,590[*]	159,513[*]	6,665[*]
261	279	**L'Oréal**	France	Soaps, cosmetics	1,805,931[6]	1,312,004[6]	79,908[6]	384,719[6]	25,522[6]
262	243	**Mitsui Toatsu Chemicals**[10]	Japan	Chemicals	1,801,674	1,908,067	33,783	1,004,071	5,761
263	263	**Plessey**[10]	Britain	Electronics, appliances	1,796,070	1,468,434	136,114	604,526	40,872
264	231	**Esso Nederland**	Netherlands	Petroleum	1,786,651[*,12]	566,155[*]	5,392[*]	275,634[*]	1,602[*]
265	259	**Australian Consolidated Ind.**[10]	Australia	Glass; packaging; building materials	1,784,905	1,832,331	12,280	635,938	31,665
266	286	**CODELCO-CHILE**[5]	Chile	Mining—copper	1,774,063	3,152,657	220,699	1,837,466	25,660
267	273	**Gallaher**	Britain	Tobacco	1,769,394	1,276,131	87,080	492,420	27,822
268	260	**Fuji Electric**[10]	Japan	Electronics, appliances	1,766,496	1,723,715	19,781	226,226	18,195
269	265	**Tarmac**	Britain	Building materials	1,759,104	982,085	91,855	367,665	23,061
270	234	**Tabacalera**[5]	Spain	Tobacco	1,754,515	529,611	9,551	53,624	8,696
271	308	**Fletcher Challenge**[7]	New Zealand	Build. materials; paper, pulp and wood prod.	1,750,849	2,982,918	31,335	517,268	22,785
272	322	**Johnson Matthey**[10]	Britain	Metal manufacturing; chemicals	1,746,019	3,383,361	57,655	491,152	11,680
273	277	**Henkel**	Germany	Chemicals	1,744,018	1,143,118	30,281	459,438	16,747
274	338	**Imasco**[10]	Canada	Tobacco	1,712,957	1,239,821	130,477	667,013	50,000
275	264	**Pilkington Brothers**[10]	Britain	Glass	1,707,248	2,629,510	2,507	1,283,548	38,100
276	270	**Mobil Oil Française**	France	Petroleum	1,700,490[*,12]	977,278[*]	(105,084)[*]	364,927[*]	2,252[*]
277	305	**Mitsubishi Petrochemical**	Japan	Chemicals	1,694,369	1,798,399	872	120,561	2,423
278	115	**Charbonnages de France**[5]	France	Chemicals; mining—coal	1,691,540[6]	3,043,071[6]	(29,215)[6]	309,308[6]	59,400[6]
279	275	**Standard Elektrik Lorenz**	Germany	Electronics, appliances	1,680,913[12]	816,361	33,981	227,115	30,721
280	253	**Nissan Shatai**[10]	Japan	Motor vehicles and parts	1,678,074[*]	608,482[*]	13,912[*]	184,859[*]	6,872[*]
281	325	**Schering**	Germany	Pharmaceuticals; chemicals	1,676,799	1,499,601	31,341	374,323	22,789
282	280	**Preussag**	Germany	Metal mfg.—nonferrous; petrol.; mining-coal	1,676,318[6]	1,180,702[6]	41,860[6]	241,835[6]	16,768[6]
283	268	**Dainippon Ink & Chemicals**[10]	Japan	Chemicals	1,675,157	1,531,933	15,309	278	9,277
284	292	**Showa Denko**	Japan	Chemicals	1,665,065	2,421,670	(8,196)	186,487	5,691
285	258	**Vauxhall Motors**	Britain	Motor vehicles	1,658,980[12]	671,174	(1,667)	(78,526)	11,519
286	299	**Glaxo Holdings**[7]	Britain	Pharmaceuticals	1,658,680	1,460,182	186,289	831,039	27,768
287	315	**MacMillan Bloedel**	Canada	Paper, wood products; building materials	1,658,402	1,702,531	19,390	782,242	15,472
288	289	**Stelco**	Canada	Metal manufacturing—steel	1,649,534	2,225,387	(11,553)	1,257,262	19,519
289	287	**Vale do Rio Doce**[5]	Brazil	Mining—iron	1,642,289	4,166,903	344,458	1,907,423	19,285
290	372	**De Beers Consolidated Mines**	South Africa	Mining—diamonds	1,590,473	5,018,675	482,890	3,716,419	19,000
291	290	**RMC Group**	Britain	Building materials	1,589,401	943,620	53,207	291,171	16,199
292	262	**Hino Motors**[10]	Japan	Motor vehicles	1,588,739[*]	944,439[*]	18,695[*]	2,601,510[*]	8,249[*]
293	307	**Ricoh**[10]	Japan	Office equipment (includes computers)	1,561,584	1,404,766	40,035	622,841	19,037
294	288	**Jujo Paper**[10]	Japan	Paper, pulp and wood products	1,561,087	1,585,728	140	186,498	7,211
295	276	**KHD (Klöckner-Humboldt-Deutz)**	Germany	Industrial and farm equipment	1,559,711	1,196,216	21,431	264,237	22,631
296	311	**John Labatt**[27]	Canada	Food products; beverages	1,556,559	777,473	55,813	312,493	9,000
297	301	**Mitsubishi Metal**[10]	Japan	Metal manufacturing—copper	1,547,137	1,803,469	6,552	151,510	7,854
298	271	**Babcock International**	Britain	Industrial equipment	1,540,564	912,202	(10,549)	257,945	25,982
299	376	**Bull**[5,29]	France	Office equipment (including computers)	1,527,036[6]	1,384,215[6]	(82,023)[6]	56,262[6]	25,929[6]
300	296	**Nisshin Steel**[10]	Japan	Metal manufacturing—steel	1,525,853	2,183,891[1]	15,389	384,833	10,355

● Not on last year's list.
N.A. Not available.
[*] Fortune estimate.
[29] Name changed from CII-Honeywell Bull on September 28, 1982.

RANK		COMPANY	COUNTRY	INDUSTRY	SALES[1]	ASSETS[2]	NET INCOME[3]	STOCK-HOLDERS' EQUITY[4]	EMPLOYEES
'83	'82				$000	$000	$000	$000	
301	328	**Entreprise Minière et Chimique[5]**	France	Mining and crude oil production	1,518,678[6]	851,074[6]	(16,829)[6]	98,296[6]	12,956[6]
302	291	**Nippon Gakki[27]**	Japan	Musical instruments, sporting goods	1,508,565	1,199,073	10,237	437,663	18,358
303	254	**Consolidated Gold Fields[7]**	Britain	Building materials; mining—gold	1,504,515	1,876,392	92,014	957,358	13,075
304	295	**Union Laitière Normande**	France	Food products	1,489,810[6]	466,855[6]	662[6]	40,456[6]	7,350[6]
305	304	**Fuji Kosan[10]**	Japan	Petroleum	1,488,615[9]	1,012,029[9]	(102,813)[9]	(154,042)[9]	848[9]
306	303	**Reckitt & Colman**	Britain	Food products; beverages; household cleaners	1,487,079	787,773	60,438	407,959	34,300
307	283	**Mitsui Mining[10]**	Japan	Mining—coal	1,487,024	1,086,176	4,985	68,649	1,901
308	331	**Genstar**	Canada	Building materials	1,482,044	1,887,373	83,565	760,948	15,175
309	285	**Statsföretag Group[5]**	Sweden	Industrial and farm equipment	1,477,465	1,559,551	35,060	239,076	25,719
310	339	**Domtar**	Canada	Paper, pulp and wood products; build. mat.	1,476,587	1,084,934	32,615	507,031	15,151
311	266	**Brooke Bond Group[7]**	Britain	Food products; beverages	1,474,974	870,437	17,757	412,837	63,470
312	298	**Nippon Light Metal[10]**	Japan	Fabricated metal products; metal mfg-alum	1,470,257	1,877,339	(68,164)	(5,992)	9,500
313	343	**Shiseido[18]**	Japan	Soaps, cosmetics	1,467,539	1,373,359	60,407	714,288	13,085
314	379	**TDK[18,30]**	Japan	Electronics, appliances	1,455,841	1,400,723	112,989	825,738	13,538
315	329	**AECI**	South Africa	Chemicals	1,455,494	1,234,280	114,683	578,899	26,500
316	344	**Rowntree Mackin[illegible]sh**	Britain	Food products	1,442,967	982,811	50,024	506,283	31,200
317	312	**Nisshin Flour Milling[10]**	Japan	Food products	1,424,944	5,866,360	17,473	219,983	3,596
318	381	**Thyssen-Bornemisza**	Netherlands	Packaging; metal products; farm equip.	1,421,082	371,653	43,925	366	17,100
319	●	**News Corporation[7]**	Australia	Publishing	1,410,347	1,020,791	41,610	355,269	20,300
320	314	**Sekisui Chemical[10]**	Japan	Chemicals; building materials	1,408,946	1,311,481	4,625	188,042	8,408
321	302	**Daido Steel[7]**	Japan	Metal manufacturing—steel	1,405,777	1,263,361	13,990	204,781	11,454
322	321	**Meiji Milk Products[10]**	Japan	Food products	1,400,245	565,812	18,735	126,703	6,296
323	334	**Nippon Meat Packers[28]**	Japan	Food products	1,398,165	652,066	23,861	287,971	10,100
324	410	**Standard Telephones & Cables**	Britain	Electronics	1,395,520	922,864	99,290	379,858	28,231
325	316	**Béghin-Say**	France	Food products; paper products	1,392,986[9]	1,265,351[9]	16,497[9]	246,028[9]	8,098[9]
326	293	**Unitika[10]**	Japan	Textiles	1,391,377	1,322,402	(1,487)	91,360	8,465
327	337	**Empresa Nacional del Petróleo[5]**	Chile	Petroleum	1,388,269	11,409	82,710	662	3,537
328	324	**Sumitomo Heavy Industries[10]**	Japan	Industrial equipment; shipbuilding	1,386,548	1,877,134	23,765	174 849	9,500
329	306	**TI Group**	Britain	Metal products; appliances	1,385,970	796,148	(4,699)	306,412	29,000
330	355	**Blue Circle Industries**	Britain	Building materials	1,374,146	2,279,726	92,013	1,362,523	20,528
331	320	**Distillers[10]**	Britain	Beverages	1,367,837	2,218,561	213,907	1,633,863	18,180
332	335	**Onoda Cement[10]**	Japan	Building materials	1,364,903	1,636,577	6,300	193,485	7,355
333	394	**Tokyo Sanyo Electric[18]**	Japan	Electronics, appliances	1,362,439[9]	1,201,308[9]	42,652[9]	496,761[9]	11,009[9]
334	330	**SSAB (Svenskt Stål)[5]**	Sweden	Metal manufacturing	1,360,086	1,284,020	3,962	437,141	14,711
335	309	**Sasol[7]**	South Africa	Chemicals; mining—coal	1,348,791	1,501,773	208,748	899,525	30,770
336	351	**Abitibi-Price**	Canada	Paper, pulp and wood products	1,346,923	1,366,346	30,840	692,265	15,000
337	313	**Coats Patons**	Britain	Textiles	1,346,102	1,069,030	48,811	531,394	43,500
338	●	**Sankyo[10]**	Japan	Pharmaceuticals	1,343,347	1,075,933	36,336	396,025	9,600
339	340	**Matra[5]**	France	Aerospace; motor vehicle parts	1,340,093[6]	1,685,311[6]	4,463[6]	185,516[6]	6,065[6]
340	284	**PETRONOR**	Spain	Petroleum	1,336,058	552,026	20,713	105,230	654
341	●	**Redland[10]**	Britain	Building materials	1,335,417	849,324	57,153	362,768	11,514
342	327	**Daishowa Paper[10]**	Japan	Paper, pulp and wood products	1,328,270	1,602,296	7,321	92,188	5,147
343	347	**Continental Gummi-Werke**	Germany	Rubber products	1,325,978	692,638	16,129	155,364	26,688
344	310	**Northern Engineering Industries**	Britain	Industrial equipment; electronics	1,321,418	1,055,836	28,611	304,835	32,100
345	356	**ICL[11]**	Britain	Office equipment (includes computers)	1,321,070	861,926	59,772	347,916	22,573
346	317	**Fed. Volksbeleggings Beperk[10]**	South Africa	Food products; pharmaceuticals	1,320,179	923,408	20,843	230,730	46,700
347	318	**Sandvik Group**	Sweden	Metal mfg.—steel, cemented carbide	1,318,849	1,472,784	(34,408)	186,017	24,211
348	418	**Ford Brasil[20]**	Brazil	Motor vehicles	1,318,079[12]	728,648	33,450	176,297	21,200
349	300	**Unión Explosivos Río Tinto**	Spain	Petroleum	1,308,561[9]	1,189,978[9]	(104,390)[9]	156,607[9]	11,998[9]
350	332	**Holderbank Financière Glaris**	Switzerland	Glass, concrete, abrasives, gypsum	1,306,024[6]	2,926,202[6]	23,611[6]	680,634[6]	17,700[6]

● Not on last year's list.
N.A. Not available.
[9] Fortune estimate.
[30] Name changed from TDK Electronics on March 1, 1983.

RANK '83	RANK '82	COMPANY	COUNTRY	INDUSTRY	SALES[1] $000	ASSETS[2] $000	NET INCOME[3] $000	STOCKHOLDERS' EQUITY[4] $000	EMPLOYEES
351	389	**Dofasco**	Canada	Metal manufacturing—steel	1,302,720	1,747,806	97,748	814,370	11,400
352	361	**Whitbread[14]**	Britain	Beverages	1,291,571	1,907,362	80,288	1,239,279	36,961
353	362	**Kao Soap[10]**	Japan	Soaps, cosmetics	1,277,375	979,778	21,913	364,711	4,783
354	383	**Racal Electronics[10]**	Britain	Electrical equipment	1,273,781	1,069,240	118,642	461,360	19,000
355	349	**Svenska Cellulosa**	Sweden	Paper and wood products	1,273,101	1,509,238	32,714	317,104	15,250
356	378	**Pioneer Electronic[11,19]**	Japan	Electronics, appliances	1,266,815	1,039,745	9,150	591,827	11,707
357	326	**Dunlop Olympic[7]**	Australia	Rubber products; textiles	1,263,906	665,830	30,630	286,238	18,500
358	333	**PETROPERU[5]**	Peru	Petroleum	1,261,905	971,571	32,739	143,996	8,809
359	345	**Aisin Seiki[10]**	Japan	Motor vehicle parts	1,261,389	893,147	28,667	3,654,607	9,693
360	401	**Koninklijke Wessanen**	Netherlands	Food products	1,256,837[6]	336,139[6]	12,890[6]	129,435[6]	3,821[6]
361	386	**Heineken**	Netherlands	Beverages	1,250,906	1,280,651	69,512	596,334	21,254
362	380	**Grundig[10]**	Germany	Electronics, appliances	1,250,728	1,537,395	24,279	181,121	28,914
363	350	**Nokia**	Finland	Metal products; rubber & paper prod.; elec.	1,248,591	1,321,623	18,044	199,897	23,651
364	346	**Mitsui Petrochemical[10]**	Japan	Chemicals	1,236,454	1,453,121	(6,528)	141,326	5,084
365	354	**SWEDYARDS (Svenska Varv)[5]**	Sweden	Shipbuilding	1,231,864	1,504,407	61,961	292,335	18,422
366	341	**Hachette**	France	Publishing, printing	1,224,764[6]	640,105[6]	43,231[6]	150,732[6]	11,600[6]
367	384	**Konishiroku Photo Industry[31]**	Japan	Photographic equipment	1,223,218	1,212,284	50,574	463,430	4,656
368	353	**Alfa-Laval**	Sweden	Industrial and farm equipment	1,219,534	1,204,569	54,975	300,687	15,984
369	360	**SNECMA[5]**	France	Aerospace	1,218,421[6]	2,224,440[6]	(7,077)[6]	179,029[6]	21,287[6]
370	297	**Mitsui Engineering & Shipbldg.[10]**	Japan	Industrial equipment; shipbldg.; transport.	1,215,443[9]	2,078,000[9]	31,820[9]	289,728[9]	12,224[9]
371	404	**Bosch-Siemens Hausgeräte**	Germany	Electronics, appliances	1,214,943	471,113	N.A.	N.A.	13,700
372	239	**Massey-Ferguson[16]**	Canada	Farm and industrial equipment	1,207,393*	1,494,970*	(110,073)*	1,163,394*	27,609
373	●	**Vaal Reefs Exploration & Mining**	South Africa	Mining—gold, uranium	1,203,734	868,111	344,347	850,812	43,895
374	391	**Valeo**	France	Motor vehicle parts	1,200,385[6]	879,798[6]	10,526[6]	182,584[6]	27,600[6]
375	374	**Rheinische Braunkohlenwerke**	Germany	Mining—coal	1,199,276[9]	2,352,348[9]	626[9]	339,303[9]	17,260[9]
376	323	**Arla[7]**	Sweden	Food products	1,196,276	380,629	5,298	69,777	8,212
377	365	**Molson[10]**	Canada	Beverages; chemicals	1,188,842	757,313	49,556	49,538	11,000
378	395	**Zanussi Group**	Italy	Electronics, appliances	1,184,434	N.A.	N.A.	48,309	26,984
379	357	**Meiji Seika[10]**	Japan	Food products; beverages; pharmaceuticals	1,160,708	722,372	21	305	5,577
380	387	**Morinaga Milk Industry[10]**	Japan	Food products; beverages	1,152,449[9]	491,188[9]	4,733[9]	107,213[9]	4,564[9]
381	364	**Amatil[16]**	Australia	Tobacco; beverages; food products	1,151,882	689,359	31,273	313,032	11,000
382	409	**Gulf Oil Great Britain**	Britain	Petroleum	1,147,522*	N.A.	3,725*	N.A.	N.A.
383	373	**Suncor**	Canada	Petroleum	1,146,300[12]	1,711,818	87,952	920,018	5,410
384	370	**Mitsui Mining & Smelting[10]**	Japan	Metal mfg.—nonferrous; fabr. metal prod.	1,139,136	1,233,105	(1,190)	79,414	7,887
385	397	**Consolidated-Bathurst**	Canada	Paper, wood products; packaging	1,130,210	1,342,158	27,042	503,256	13,530
386	352	**Canadian General Electric**	Canada	Electronics, appliances	1,130,012[12]	742,329	31,252	389,425	14,161
387	424	**Kyowa Hakko Kogyo**	Japan	Chemicals; pharmaceuticals	1,124,270	1,060,475	27,270	288,330	6,251
388	348	**Oljekonsumenternas Förbund**	Sweden	Petroleum	1,123,491	814,532	15,366	65,793	5,711
389	421	**SNIA BPD[32]**	Italy	Aerospace; textiles; chemicals	1,123,041	N.A.	N.A.	N.A.	14,700
390	420	**Oki Electric Industry[10]**	Japan	Electronics, appliances	1,120,725	1,177,967	9,778	170,264	15,658
391	385	**Kuraray[10]**	Japan	Chemicals	1,119,788	1,229,490	5,903	90,247	8,747
392	342	**Sumitomo Metal Mining[10]**	Japan	Metal manufacturing—nonferrous	1,118,265	1,155,444	3,338	152,921	4,620
393	294	**Honshu Paper[10]**	Japan	Paper, pulp and wood products	1,117,792	1,616,205	200	90,854	5,364
394	396	**Nichiro Gyogyo[18]**	Japan	Food products	1,115,740	636,172	(5,679)	36,641	3,639
395	363	**Burns Philp[7]**	Australia	Building materials; food products	1,114,523	713,677	4,983	249,461	13,000
396	371	**S. Pearson & Son**	Britain	Publishing; ceramics	1,107,199	1,051,998	62,815	486,210	27,567
397	392	**Swedish Match[33]**	Sweden	Wood products; chemicals; build. materials	1,101,582	804,245	20,593	150,187	18,350
398	368	**General Motors do Brasil**	Brazil	Motor vehicles and parts	1,090,776[12]	693,996	(15,865)	160,489	20,427
399	443	**Yokohama Rubber**	Japan	Rubber products	1,089,083	966,642	(1,120)	752,974	10,848
400	358	**John Brown[10]**	Britain	Industrial equipment	1,076,014	663,354	(44,585)	123,999	12,493

● Not on last year's list.
N.A. Not available.
* Fortune estimate.

[31] Figures are for fiscal year ended April 20, 1983.

[32] Name changed from Snia Viscosa on December 9, 1983.

[33] Figures are for fiscal year ended February 31, 1983.

RANK '83	'82	COMPANY	COUNTRY	INDUSTRY	SALES[1] $000	ASSETS[2] $000	NET INCOME[3] $000	STOCK-HOLDERS' EQUITY[4] $000	EMPLOYEES
401	411	**Anomina Petroli Italiana**	Italy	Petroleum	1,069,566	234,873	276	43,454	1,046
402	398	**Ito Ham Provisions**[14]	Japan	Food products	1,069,004	535,005	16,811	268,173	5,384
403	390	**Nissan Diesel Motor**[10]	Japan	Motor vehicles	1,064,697[9]	925,965[9]	5,158[9]	154,933[9]	6,970[9]
404	416	**Wellcome Foundation**[24]	Britain	Pharmaceuticals	1,064,478	1,029,366	59,348	548,896	18,645
405	453	**Nixdorf Computer**	Germany	Office equipment (includes computers)	1,061,605[6]	964,527[6]	35,471[6]	270,774[6]	17,521[6]
406	382	**Rauma-Repola**	Finland	Paper, pulp and wood prod.; metal prod.	1,058,342	1,389,370	8,278	150,487	18,099
407	369	**Atlas Copco**	Sweden	Industrial equipment	1,054,753[6]	932,584[6]	352[6]	266,055[6]	16,974[6]
408	375	**W.C. Heraeus**	Germany	Metal manufacturing	1,054,698	310,675	8,687	88,985	6,212
409	450	**Lion**	Japan	Soaps, cosmetics	1,051,095	615,481	12,668	201,787	3,873
410	412	**Yoshida Kogyo**[10]	Japan	Building materials; metal products	1,050,926	1,768,732	59,067	428,816	14,363
411	467	**Mitsubishi Gas Chemical**[10]	Japan	Chemicals	1,047,159	1,040,787	9,309	243,138	4,590
412	430	**Rütgerswerke**	Germany	Chemicals	1,046,387	498,088	8,644	121,888	11,283
413	428	**Linde**	Germany	Industrial equipment	1,045,658[6]	1,021,811[6]	16,857[6]	202,942[6]	15,051[6]
414	272	**Chevron Oil Italiana**	Italy	Petroleum	1,042,551[12]	260,522	4,300	28,304	854
415	422	**Zahnradfabrik Friedrichshafen**	Germany	Motor vehicle parts; industrial equipment	1,039,114	823,940	23,963	123,937	18,835
416	•	**Driefontein Consolidated**[7]	South Africa	Mining—gold, uranium	1,035,735	1,326,622	369,662	847,034	27,295
417	449	**Boehringer Ingelheim**	Germany	Pharmaceuticals; chemicals	1,034,248[6]	946,789[6]	21,922[6]	367,706[6]	15,236[6]
418	414	**Sanyo-Kokusaku Pulp**[10]	Japan	Paper, pulp and wood products	1,031,021[9]	1,265,921[9]	4,460[9]	106,573[9]	4,833[9]
419	425	**Esselte**[7]	Sweden	Office equipment; publishing, printing	1,030,811	818,439	28,282	170,849	15,374[9]
420	406	**Mitsubishi Rayon**[10]	Japan	Textiles; chemicals	1,029,214	1,076,251	10,347	138,314	3,739
421	400	**Enso-Gutzeit**	Finland	Paper and wood products	1,027,232	1,775,538	(14,336)	393,099	13,444
422	433	**Freudenberg**	Germany	Chemicals; textiles	1,026,810[6]	N.A.	N.A.	N.A.	21,580[6]
423	408	**IMI**	Britain	Metal products; metal mfg.—nonferrous	1,025,251	721,494	13,781	318,250	22,091
424	419	**PWA**	Germany	Paper and wood products	1,023,890[6]	633,899[6]	5,038[6]	105,109[6]	10,407[6]
425	468	**Norddeutsche Affinerie**[11]	Germany	Metal manufacturing—nonferrous	1,019,847[9]	282,507[9]	5,398[9]	73,342[9]	3,260[9]
426	366	**ENSIDESA**[5]	Spain	Metal manufacturing—steel	1,012,183	2,067,711	(193,146)	237,453	22,356
427	427	**Lesieur**	France	Food products; soaps	1,006,580[6]	532,502[6]	18,647[6]	147,315[6]	6,613[6]
428	403	**Grupo Industrial Alfa**	Mexico	Metal manufacturing—steel; chemicals	1,003,725	2,422,538	(68)	153,308	31,721
429	388	**Hispanoil (Hispanica de Petról.)** [5]	Spain	Petroleum	999,051	271,881	11,117	45,010	266
430	399	**Vickers**	Britain	Industrial equipment; motor vehicles	993,205	682,640	5,912	291,751	22,205
431	255	**Seagram**[20]	Canada	Beverages	981,329	5,061,796	125,710	2,566,424	14,300
432	490	**Wärtsilä**	Finland	Shipbldg.; indus. equip.; build. materials	973,906	1,454,836	19,518	152,765	17,605
433	426	**SEAT**[5]	Spain	Motor vehicles and parts	970,820	1,856,543	(249,251)	232,965	25,170
434	442	**Toyota Auto Body**[10]	Japan	Motor vehicles and parts	970,748[9]	307,879[9]	7,105[9]	87,464[9]	6,475[9]
435	•	**Jefferson Smurfit Group**[20]	Ireland	Paper, pulp and wood products	968,643*	794,407*	24,996*	260,063*	12,119
436	415	**Nihon Cement**[27]	Japan	Building materials	968,430	1,488,833	4,651	159,454	5,722
437	431	**Prouvost**	France	Textiles	957,275[6]	613,145[6]	7,000[6]	95,767[6]	17,332[6]
438	405	**Ford España**	Spain	Motor vehicles and parts	952,257[12,9]	750,582[9]	23,677[9]	290,935[9]	9,373[9]
439	377	**Inco**	Canada	Mining—nickel; metal products	952,010	2,557,806	(190,572)	1,094,998	24,866
440	•	**Sumitomo Rubber**	Japan	Rubber and plastic products	945,205	855,818	(2,283)	72,512	6,700
441	436	**FAG Kugelfischer Georg Schäfer** [34]	Germany	Metal products	939,726	897,860	9,331	109,725	27,888
442	417	**ARBED**	Luxembourg	Metal manufacturing—steel	939,105[9]	1,790,762[9]	(47,411)[9]	297,699[9]	16,016[9]
443	441	**Kanto Auto Works**[10]	Japan	Motor vehicles	931,995[9]	265,703[9]	5,124[9]	64,445[9]	5,985[9]
444	423	**Denki Kagaku Kogyo**[10]	Japan	Chemicals	931,739	1,182,385	8,736	162,803	3,898
445	470	**MTU**	Germany	Motor vehicles; aerospace	931,576	895,241	1,770	74,121	12,329
446	456	**Axel Springer**[19]	Germany	Publishing, printing	925,135	337,380	1,566	72,913	11,433
447	469	**Shionogi**[10]	Japan	Pharmaceuticals	924,774	823,264	33,423	412,192	8,531
448	402	**Motor Oil (Hellas) Corinth Ref.**	Greece	Petroleum	923,493	458,106	53	23,250	1,100
449	463	**Carl-Zeiss-Stiftung**[11]	Germany	Measuring and scientific equipment; glass	914,087	777,690	9,467	105,093	23,109
450	444	**Citizen Watch**[10]	Japan	Watches, clocks	912,590	839,230	24,386	299,929	9,849

• Not on last year's list.

N.A. Not available.

* Fortune estimate.

[34] Name changed from Kugelfischer Georg Schäfer on June 23, 1983.

RANK '83	'82	COMPANY	COUNTRY	INDUSTRY	SALES[1] $000	ASSETS[2] $000	NET INCOME[3] $000	STOCKHOLDERS' EQUITY[4] $000	EMPLOYEES
451	496	**Du Pont Canada**	Canada	Chemicals; textiles	909,230[12]	499,021	28,569	221,355	4,991
452	336	**Arthur Guinness[11]**	Britain	Beverages	907,972	850,843	36,207	329,943	13,653
453	●	**EBARA[27]**	Japan	Industrial equipment	905,948	953,336	4,526	238,435	6,481
454	435	**Douwe Egberts[7]**	Netherlands	Food products; tobacco	903,918	577,285	38,364	294,572	6,001
455	435	**Toyo Soda Manufacturing[10]**	Japan	Chemicals	902,436	1,133,506	(8,861)	91,272	5,319
456	457	**Reemtsma Cigarettenfabriken**	Germany	Tobacco; beverages	890,656	803,048	554	188,257	9,419
457	474	**SAGEM**	France	Electronics; industrial equipment	884,420[6]	640,298[6]	9,624[6]	98,001[6]	7,848[6]
458	452	**Valmet[5]**	Finland	Industrial, farm and transportation equip.	884,007	706,299	6,984	118,142	15,099
459	●	**ISAB**	Italy	Petroleum	882,330	331,758	11,440	30,333	799
460	434	**Nippon Seiko[27]**	Japan	Industrial equipment; motor vehicle parts	870,206	1,020,034	25,329	378,410	9,506
461	●	**Chemie Linz**	Austria	Chemicals	868,401	476,186	5,063	67,066	8,230
462	445	**Rengo[10]**	Japan	Paper and wood products	867,755	505,377	10,908	116,067	4,300
463	●	**Pakistan State Oil[7]**	Pakistan	Petroleum	865,558	112,179	7,865	22,855	1,927
464	462	**Royal Pkg. industries Van Leer**	Netherlands	Fab. metal prod.; paper, pulp & wood prod.	863,782	652,538	17,405	326,267	13,997
465	446	**NTN Toyo Bearing[35]**	Japan	Motor vehicle parts	863,202	925,934	27,389	2,663,720	7,395
466	486	**Schindler Holding**	Switzerland	Transportation equipment	860,405	624,140	21,091	215,145	22,332
467	●	**Porsche[28]**	Germany	Motor vehicles and parts	860,144	325,648	2,806	66,151	5,883
468	438	**Toyoda Automatic Loom Works[10]**	Japan	Motor vehicles; industrial equipment	855,580[9]	743,000[9]	35,991[9]	452,163[9]	6,309[9]
469	448	**Butano[5]**	Spain	Petroleum	852,438[9]	342,338[9]	(5,502)[9]	154,055[9]	3,530[9]
470	478	**Elkem**	Norway	Metal manufacturing	852,243	688,418	23,106	95,603	9,943
471	454	**Niigata Engineering[10]**	Japan	Industrial equipment; shipbuilding	846,948	827,506	6,749	178,695	4,822
472	●	**China Steel[7]**	Taiwan	Metal manufacturing — steel	845,446	2,680,473	(5,382)	1,444,950	N.A.
473	458	**Steyr-Daimler-Puch**	Austria	Motor vehicles	842,583	770,777	(16,116)	104,221	15,515
474	460	**Thomas Borthwick & Sons[11]**	Britain	Food products	842,518	191,286	5,852	30,474	10,069
475	459[*]	**Kymmene-Strömberg[36]**	Finland	Paper, fiber and wood products	834,319	1,170,309	(6,853)	277,486	16,087
476	475	**Siderúrgica Nacional[5]**	Brazil	Metal manufacturing	831,110[9]	3,632,084[9]	205,628[9]	1,300,576[9]	21,186[9]
477	455	**Petroliber[5]**	Spain	Petroleum	829,202	419,074	4,500	65,305	834
478	464	**Albright & Wilson**	Britain	Chemicals	826,769[12]	534,188	29,260	263,703	6,735
479	432	**DRG**	Britain	Paper and wood products	823,730	443,578	18,191	135,715	15,878
480	471	**SEITA[5]**	France	Tobacco	821,609[9]	879,873[9]	(14,396)[9]	312,712[9]	8,313[9]
481	●	**Fujisawa Pharmacuetical[10]**	Japan	Pharmaceuticals; chemicals	820,262	1,059,109	46,070	595,368	6,000
482	481	**Prima Meat Packers[10]**	Japan	Food products	819,436	324,736	3,875	67,519	3,773
483	●	**Merlin Gerin**	France	Electronics	809,720[6]	532,756[6]	20,831[6]	98,013[6]	13,991[6]
484	497	**United Breweries[11]**	Denmark	Beverages	803,708	784,557[6]	33,980[6]	208,765[6]	13,267[6]
485	472	**C. & J. Clark[20]**	Britain	Leather products	802,812	384,086	15,218	217,042	23,386
486	●	**Yamazaki Baking**	Japan	Food products	796,547[9]	492,624[9]	26,305[9]	262,059[9]	7,649[9]
487	483	**Showa Sangyo[21]**	Japan	Food products	795,552	458,074	3,179	117,756	1,980
488	485	**Toyo Rubber Industry**	Japan	Rubber products; chemicals	792,542[6]	694,117[6]	(11,068)[6]	56,267[6]	6,913[6]
489	439	**USIMINAS[5]**	Brazil	Metal manufacturing—steel	789,245[9]	1,985,376[9]	(147,149)[9]	734,136[9]	14,661[9]
490	●	**GECAMINES[5]**	Zaire	Mining—copper, cobalt, zinc	787,679	1,828,110	(105,747)	1,305,062	36,986
491	●	**COSPIA[5]**	Brazil	Metal manaufacturing	783,249	3,000,262	(141,949)	1,168,141	14,096
492	●	**BPB Industries[10]**	Britain	Build. mat.; paper, pulp and wood prod.	778,506	588,879	71,191	353,902	10,900
493	466	**Delta Group**	Britain	Electronics; metal products	777,313	538,332	32,319	254,579	18,325
494	461	**ARBED Saarstahl**	Germany	Metal manufacturing—steel	771,789[9]	1,457,254[9]	2,623[9]	124,771[9]	16,236[9]
495	498	**Eschweiler Bergwerks-Verein**	Germany	Mining—coal	770,214	807,057	1,911	79,644	17,809
496	●	**KemaNobel**	Sweden	Chemicals	765,229	571,948	19,602	123,633	7,226
497	477	**Scottish & Newcastle Breweries[27]**	Britain	Beverages	765,136	821,164	44,425	510,950	21,968
498	●	**English China Clays[11]**	Britain	Mining—clays, carbonates	765,095	862,347	43,590	512,302	12,367
499	479	**Daicel Chemical Industries[10]**	Japan	Chemicals	763,708	768,163	12,908	156,105	4,050
500	●	**Stora Kopparbergs Bergslags**	Sweden	Paper and wood products	761,619	1,054,844	26,210	208,215	9,396
		TOTALS			**1,752,468,700**	**1,562,649,376**	**26,749,882**	**427,689,022**	**17,722,399**

● Not on last year's list.
N.A. Not available.
[*] Fortune estimate.
[35] Figures are for fiscal year ended March 20, 1983.
[36] Name changed from Kymi Kymmene on November 1, 1983.

PERSPECTIVES ON THE INTERNATIONAL 500

CHANGES IN SALES

THE TEN BIGGEST INCREASES

	Sales rank	
BTR	158	135.4%
China Steel	472	84.6
Redland	341	72.0
Schlumberger	75	64.7
YPF (Yacimientos Petrolíferos)	55	52.3
General Motors of Canada	31	44.4
Formosa Plastics Group	202	41.0
Statoil	127	37.3
Porsche	467	36.0
IBM Japan	179	32.4

THE TEN BIGGEST DECREASES

Schneider	220	63.8%
Petróleos de Venezuela	68	63.5
Charbonnages de France	278	57.5
Chevron Oil Italiana	414	40.4
Seagram	431	38.6
Esso (France)	131	38.6
Arthur Guinness	452	34.5
Honshu Paper	393	30.6
Türkiye Petrolleri	118	29.8
Massey-Ferguson	372	29.1

THE INDUSTRY MEDIANS

	Increases
Office equipment (includes computers)	9.3%
Pharmaceuticals	4.5
Measuring and scientific equipment	2.0
Mining	1.8
Electronics, appliances	1.6
	Decreases
Industrial and farm equipment	9.5%
Textiles	7.0
Beverages	6.8
Metal products	6.7
Tobacco	6.3
Paper and wood products	5.7
Petroleum	5.5
Metal manufacturing	5.0
Food products	3.6
Building materials	3.5
Aerospace	3.2
Motor vehicles and parts	2.3
Rubber products	2.0
Publishing, printing	0.7
Shipbuilding, transportation equipment	0.6
Chemicals	0.3
Leather	N.A.
Musical instruments, toys, sporting goods	N.A.
Soaps, cosmetics	N.A.

CHANGES IN PROFITS

THE TEN BIGGEST INCREASES*

	Sales rank	
DRG	479	10297.8%
Showa Oil	116	4189.9
Carl-Zeiss-Stiftung	449	1912.0
VIAG	207	1231.7
Albright & Wilson	478	1147.2
Roche/Sapac	128	1030.1
Petro-Canada	141	949.6
General Motors of Canada	31	843.4
Chrysler Canada	132	607.4
Daewoo Industrial	62	586.5

THE TEN BIGGEST DECREASES*

Meiji Seika	379	100.0%
ÖMV	175	98.9
Atlas Copco	407	98.9
Motor Oil (Hellas) Corinth Refineries	448	98.2
Jujo Paper	294	98.0
ARBED Saarstahl	494	95.6
Deutsche Babcock	167	94.9
Reemtsma Cigarettenfabriken	456	94.2
Honshu Paper	393	92.2
Rheinische Braunkohlenwerke	375	89.9

*Listings exclude money losers.

THE INDUSTRY MEDIANS

	Increases
Paper and wood products	79.5%
Rubber products	50.2
Measuring and scientific equipment	33.3
Metal manufacturing	28.7
Building materials	27.9
Chemicals	27.7
Office equipment (includes computers)	21.0
Metal products	18.1
Petroleum	14.2
Mining	10.7
Tobacco	9.7
Textiles	9.0
Publishing, printing	7.0
Beverages	3.8
Pharmaceuticals	3.3
Food products	1.0
	Decreases
Industrial and farm equipment	15.9%
Electronics, appliances	12.6
Aerospace	5.5
Motor vehicles and parts	3.7
Shipbuilding, transportation equipment	3.6
Leather	N.A.
Musical instruments, toys, sporting goods	N.A.
Soaps, cosmetics	N.A.

ARRIVALS AND DEPARTURES

NEWCOMERS AND RETURNEES*

	1983 sales rank
BPB Industries (1981: 489)	492
Britoil	258
Chemie Linz (1980: 484)	461
China Steel	472
COSPIA	491
Driefontein Consolidated	416
Daewoo Industrial (1978: 155)	62
Ebara	453
English China Clays	498
Fujisawa Pharmaceutical	481
GECAMINES (1980: 317)	490
ISAB	459
Jefferson Smurfit Group	435
KemaNobel (1979: 452)	496
Merlin Gerin	483
News Corporation	319
Oil and Natural Gas Commission	191
Pakistan State Oil	463
Porsche (1979: 491)	467
Redland (1981: 473)	341
Sankyo	338
Stora Kopparbergs Bergslags (1981: 467)	500
Sumitomo Rubber	440
Vaal Reefs Exploration and Mining	373
Yamazaki Baking (1978: 436)	486
Zambia Industrial & Mining (1981: 178)	234

*Figures in parentheses indicate year and sales rank the last time the company was listed.

DEPARTURES

	1982 sales rank
AGA	487
Ahlström (A.)	488
Aichi Machine Industry	476
Boliden	467
British Sugar	451
Carnaud	493
Chevron Oil Belgium[1]	429
Dansk Esso	495
Dillinger Huttenwerke	482
Dollfus-Mieg	494
FMC	473
Fischer (Georg)	492
General Motors-Holden's	359
Incentive	500
Indústrias Votorantim	393
Iveco Magirus[2]	437
Mitsubishi Mining & Cement	319
Pernod Ricard	491
Syntex	489
SIDOR (Siderúrgica del Orinoco)	447
Tilling (Thomas)[3]	117
Tootal Group	480
Topy Industries	484
Turner & Newall	413
Usines Chausson	499
Valores Industriales	465

[1] Company's results are not yet published.
[2] Name changed from Magirus-Deutz in June 1983.
[3] Acquired by BTR (No. 158) on June 8, 1983.

THE MONEY LOSERS

	Sales rank	Loss $000
YPF (Yacimientos Petrolíferos)*	55	4,643,995
British Steel*	79	1,452,230
ENI*	3	928,925
Dome Petroleum*	229	896,499
Usinor*	106	713,874
Sacilor*	103	710,785
Cockerill Sambre*	151	658,907
EFIM*	169	509,307
Peugeot*	30	339,804
Rolls-Royce*	239	292,565
Michelin*	80	285,757
Dunlop Holdings*	193	251,636
SEAT*	433	249,251
BL*	85	229,656
Thyssen*	29	221,491
Iscor*	231	219,079
British Shipbuilders*	257	213,718
Montedison*	52	211,882
Renault*	20	206,769
Texaco (Britain)*	156	201,035
ENSIDESA*	426	193,146
Inco*	439	190,572
National Coal Board	41	185,498
Ford Motor (Britain)	78	156,136
USIMINAS*	489	147,149
Mobil Oil (Britain)*	251	145,299
COSPIA	491	141,949
Thomson*	60	140,776
Fried. Krupp	56	117,952
Massey-Ferguson*	372	110,073
GECAMINES*	490	105,747
Mobil Oil Française*	276	105,084
Unión Explosivos Río Tinto*	349	104,390
Fuji Kosan*	305	102,813
Zambia Industrial & Mining*	234	100,220
Yamaha Motor	243	92,594
Bowater	186	83,677
Bull*	300	82,023
Saarbergwerke*	177	81,067
IMETAL*	248	74,072
Nippon Light Metal*	312	68,164
Schneider*	220	63,579
Pechiney*	120	60,772
Mitsubishi Chemical Industries	104	58,708
Klöckner-Werke*	230	56,379
Vallourec	254	54,018
Volkswagenwerk*	16	51,083
Sulzer Brothers	240	48,562
ARBED*	442	47,411
Aérospatiale	145	46,903
John Brown	400	44,585
Oerlikon-Bührle	249	39,945
ALUSUISSE (Swiss Aluminium)*	134	39,040
Gutehoffnungshütte	88	34,998
Sandvik Group*	347	34,408
Charbonnages de France	278	29,215
Noranda Inc.*	183	28,071
Isuzu Motors	152	21,885
Lucas Industries	245	20,441
Esso Italiana*	129	19,407
Mobil Oil Italiana	253	17,798
Entreprise Minière et Chimique*	301	16,829
Steyr-Daimler-Puch*	473	16,116
General Motors do Brasil	398	15,865
SEITA*	480	14,396
Enso-Gutzeit*	421	14,336
Kanebo*	242	14,169
Hoogovens Groep*	226	13,451
Taiyo Fishery*	101	12,114
Stelco*	288	11,553
Toyo Rubber Industry*	488	11,068
Steel Authority of India	162	10,958
Babcock International*	298	10,549
Toyo Soda Manufacturing*	455	8,861
Showa Denko*	284	8,196
SNECMA*	369	7,077
Kymmene-Strömberg*	475	6,853
Mitsui Petrochemical*	364	6,528
Nichiro Gyogyo*	394	5,679
Butano	469	5,502
China Steel	472	5,382
Pemex (Petróleos Mexicanos)	12	5,238
TI Group*	329	4,699
Furukawa Electric	224	2,661
Sumitomo Rubber	440	2,283
VÖEST-Alpine*	59	2,062
Vauxhall Motors*	285	1,667
Unitika*	326	1,487
Mitsui Mining & Smelting*	384	1,090
Yokohama Rubber*	399	1,120
Grupo Industrial Alfa*	428	68

*Also lost money in 1982.

THE 500 BY COUNTRY

Rank breakdown:	0-100	101-200	201-300	301-400	401-500	Total	Largest company	$000	Rank
Argentina	1	0	0	0	0	1	YPF (Yacimientos Petrolíferos)	6,782,765	55
Australia	0	2	1	4	0	7	Broken Hill Proprietary	4,288,760	102
Austria	1	1	0	0	2	4	VÖEST-Alpine	6,632,500	59
Belgium	1	3	1	0	0	5	Petrofina	8,717,574	40
Brazil	1	0	1	2	3	7	Petrobrás (Petróleo Brasileiro)	16,258,011	10
Britain	14	22	22	17	12	87	British Petroleum	49,194,886	2
Britain/Netherlands	1	0	0	0	0	1	Unilever	20,291,583	5
Canada	5	10	6	9	3	33	General Motors of Canada	11,200,522	31
Chile	0	0	1	1	0	2	CODELCO-CHILE	1,774,063	266
Colombia	0	0	1	0	0	1	Empresa Colombiana de Petróleos	1,851,506	255
Denmark	0	0	0	0	1	1	United Breweries	803,708	484
Finland	0	1	0	1	5	7	Neste	4,264,702	105
France	9	8	9	7	5	38	Française des Pétroles	18,350,186	7
Germany	19	9	9	4	17	58	Siemens	15,724,273	14
Greece	0	0	0	0	1	1	Motor Oil (Hellas) Corinth Refineries	923,493	448
India	1	2	0	0	0	3	Indian Oil	9,069,891	38
Ireland	0	0	0	0	1	1	Jefferson Smurfit Group	968,643	435
Israel	0	1	0	0	0	1	Koor Industries	2,900,000	163
Italy	4	3	1	2	3	13	ENI	25,022,358	3
Japan	23	22	31	33	27	136	Toyota Motor	19,741,094	6
Kuwait	1	0	0	0	0	1	Kuwait Petroleum	10,744,273	33
Luxembourg	0	0	0	0	1	1	ARBED	939,105	442
Mexico	1	0	0	0	1	2	Pemex (Petróleos Mexicanos)	16,140,013	12
Netherlands	3	0	2	3	2	10	Philips' Gloeilampenfabrieken	16,176,941	11
Netherlands Antilles	1	0	0	0	0	1	Schlumberger	5,513,246	75
Netherlands/Britain	1	0	0	0	0	1	Royal Dutch/Shell Group	80,550,885	1
New Zealand	0	0	1	0	0	1	Fletcher Challenge	1,750,849	271
Norway	0	2	0	0	1	3	Norsk Hydro	4,077,339	111
Pakistan	0	0	0	0	1	1	Pakistan State Oil	865,558	463
Peru	0	0	0	1	0	1	PETROPERU	1,261,905	358
Philippines	0	1	0	0	0	1	Philippine National Oil	2,407,697	197
Portugal	0	0	1	0	0	1	PETROGAL (Petróleos de Portugal)	2,195,404	218
South Africa	1	0	2	4	1	8	Barlow Rand	6,747,692	57
South Korea	5	2	3	0	0	10	Hyundai Group	9,300,429	37
Spain	1	1	1	2	6	11	ENPETROL	4,399,869	100
Sweden	1	4	1	9	4	19	Volvo	12,963,008	24
Switzerland	3	4	3	1	1	12	Nestlé	13,303,618	22
Taiwan	1	0	1	0	1	3	Chinese Petroleum	5,313,672	81
Turkey	0	2	1	0	0	3	Türkiye Petrolleri	3,837,624	118
Venezuela	1	0	0	0	0	1	Petróleos de Venezuela	6,012,156	68
Zaire	0	0	0	0	1	1	GECAMINES	787,679	490
Zambia	0	0	1	0	0	1	Zambia Industrial & Mining	2,032,725	234

ALPHABETICAL INDEX TO THE INTERNATIONAL 500

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A	
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Aisin Seiki	359
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Akzo Group	82
Albright & Wilson	478
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BAT Industries	26
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BL	85
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BOC Group	174
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Babcock International	298
Barlow Rand	57
Bass	209
Bayer	18
Beecham Group	166
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Bertelsmann	182
Blue Circle Industries	330
Boehringer Ingelheim	417
Borthwick (Thomas) & Sons	474
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Citizen Watch	450
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Cockerill Sambre	151
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Daikyo Oil	87
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Jefferson Smurfit Group	435
John Brown	400
Johnson Matthey	272
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Kawasaki Heavy Industries	140
Kawasaki Steel	95
KemaNobel	496
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Mitsubishi Gas Chemical	411
Mitsubishi Heavy Industries	27
Mitsubishi Metal	297
Mitsubishi Oil	89
Mitsubishi Petrochemical	277
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Mitsui Engineering & Shipbuilding	370
Mitsui Mining	307
Mitsui Mining & Smelting	384
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Mobil Oil (Germany)	125
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Nippon Kokan	63
Nippon Light Metal	312
Nippon Meat Packers	323
Nippon Mining	74
Nippon Seiko	460
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Ricoh	293
Rio Tinto-Zinc	46
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Sacilor	103
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Salzgitter	121
Samsung Group	49
Sandoz	147
Sandvik Group	347
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Schindler Holding	466
Schlumberger	75
Schneider	220
Scottish & Newcastle Breweries	497
Seagram	431
Sekisui Chemical	320
Sharp	135
Shionogi	447
Shiseido	313
Showa Denko	284
Showa Oil	116
Showa Sangyo	487
Siderúrgica Nacional	476
Siemens	14
Snow Brand Milk Products	150
Solvay	115
Sony	96
Ssangyong Cement Industrial	139
Standard Elektrik Lorenz	279
Standard Telephones & Cables	324
Statoil	127
Statsföretag Group	309
Steel Authority of India	162
Stelco	288
Steyr-Daimler-Puch	473
Stora Kopparbergs Bergslags	500
Sulzer Brothers	240
Sumitomo Chemical	153
Sumitomo Electric Industries	217
Sumitomo Heavy Industries	328
Sumitomo Metal Industries	77
Sumitomo Metal Mining	392
Sumitomo Rubber	440
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Svenska Cellulosa	355
Swedish Match	397
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Taiyo Fishery	101
Takeda Chemical	241
Tarmac	269
Teijin	236
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Thomson	60
Thorn EMI	97
Thyssen	29
Thyssen-Bornemisza	318
Toa Nenryo Kogyo	83
Tokyo Sanyo Electric	333
Toppan Printing	206
Toray Industries	164
Toshiba	35
Toyo Kogyo	66
Toyo Rubber Industry	488
Toyo Seikan	247
Toyo Soda Manufacturing	455
Toyobo	232
Toyoda Automatic Loom Works	468
Toyota Auto Body	434
Toyota Motor	6
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Unigate	170
Unilever	5
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Union International	246
Union Laitière Normande	304
United Biscuits (Holdings)	221
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Valeo	374
Vallourec	254
Valmet	458
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Veba Oel	45
Vickers	430
Volkswagenwerk	16
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Yamaha Motor	243
Yamazaki Baking	486
Yokohama Rubber	399
Yoshida Kogyo	410
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Zahnradfabrik Friedrichshafen	415
Zambia Industrial & Mining	234
Zanussi Group	378
Zeiss-(Carl)-Stiftung	449

THE 100 LARGEST COMMERCIAL BANKING COMPANIES OUTSIDE THE U.S.

RANKED BY ASSETS

CURRENCY SWINGS shook up the rankings. Banque Nationale de Paris, which had been No. 1 in each of the previous three years, fell to No. 5 as the French franc dropped nearly 20% against the dollar. For the first time since 1971 no French bank placed among the three largest. The Japanese moved up largely on the strength of the yen. It rose nearly 14% against the dollar during the Japanese banks' last fiscal year, which ended September 30. Although Japan's big banks have appeared consistently among the top ten, they swept the top four places for the first time since FORTUNE began keeping score in 1968. Dai-Ichi Kangyo Bank, which last ranked as No. 1 in 1973, leads the pack with assets of $116 billion. The Japanese have the most banks in the rankings of any nation, with 28. France and West Germany share second place, with 11 banks each.

The most profitable of the 100 last year, ignoring banks in countries where triple-digit inflation distorts financial results, was Svenska Handelsbanken, Sweden's second-largest bank. It returned a sparkling 22.6% on stockholders' equity vs. an average for the 100 of 10.5%. The bank attributed its good year largely to a drop in Swedish interest rates: 30% of the bank's assets are in long-term bonds, and revenues from these remained high while the cost of deposits went down. Westdeutsche Landesbank Girozentrale, Germany's third largest, was the only bank on the list to show a loss for the year. Large provisions for potential losses in German real estate and overseas loans wiped out operating earnings for the government-owned bank. Two senior lending officers were dismissed.

Two Spanish banks dropped off the list, leaving that country's two largest—Banco Central and Banco Español de Crédito—as sole representatives. Each slid ten places in the ranking, in step with the peseta's 20% fall against the dollar.

Three of the five newcomers to the list are Japanese banks. Shoko Chukin Bank, a government-owned cooperative bank that lends to smaller businesses, appears for the first time as No. 53. Long an important player in Japan's lending market, Shoko Chukin opened its first overseas office last year, in London, and increased the number of its correspondent banks (those that help another bank do business outside its home market) from 46 to 72. Two other Japanese banks just missed the list last year and in 1983 used a combination of growth and the strong yen to muscle their way onto it. Chiba Bank, named after its home town, which looks across Tokyo Bay at Japan's money-center mammoths, was No. 94, and Joyo Bank, based in the industrial city of Mito, 60 miles northeast of Tokyo, was No. 99.

Another newcomer is Britain's Royal Bank of Scotland Group, in 89th place. The most dramatic change in position occurred among the Australian banks, where Westpac Banking Corp. became the biggest by far. Formed by the merger of Bank of New South Wales and Commercial Bank of Australia on the first day of its 1983 fiscal year, Westpac's $31 billion in assets shot it to No. 57, putting it 14 places ahead of its nearest Australian rival. **—Robert E. Norton**

RANK '83	 '82	BANK
1	5	Dai-Ichi Kangyo Bank[7,8]
2	7	Fuji Bank[7,8]
3	10	Sumitomo Bank[7,8]
4	9	Mitsubishi Bank[7,8]
5	1	Banque Nationale de Paris[9]
6	12	Sanwa Bank[7,8]
7	4	Barclays Bank
8	2	Caisse Nationale de Crédit Agricole[9]
9	3	Crédit Lyonnais[9]
10	6	National Westminster Bank
11	8	Société Générale[9]
12	14	Bank of Tokyo[11]
13	11	Deutsche Bank[12]
14	13	Midland Bank
15	16	Industrial Bank of Japan[7,8]
16	19	Mitsui Bank[7,8]
17	18	Norinchukin Bank[7,11]
18	15	Royal Bank of Canada[13]
19	23	Tokai Bank[7,8]
20	28	Long-Term Credit Bank of Japan[7,8]
21	27	Cie Financière de Paris et des Pays-Bas[9]
22	20	Hongkong & Shanghai Banking
23	21	Dresdner Bank[12]
24	34	Mitsubishi Trust & Banking[7,8]
25	31	Taiyo Kobe Bank[7,8]
26	25	Lloyds Bank
27	24	Canadian Imperial Bank of Commerce[13]
28	38	Sumitomo Trust & Banking[7,8]
29	17	Banco do Brasil[9]
30	26	Union Bank of Switzerland[7]
31	41	Mitsui Trust & Banking[7,8]
32	29	Bank of Montreal[13]
33	22	Westdeutsche Landesbank Girozentrale[9,13]
34	44	Daiwa Bank[7,8]
35	30	Swiss Bank Corp.[7]
36	37	Bank of Nova Scotia[13]
37	32	Banca Nazionale del Lavoro[9]
38	33	Algemene Bank Nederland
39	45	Standard Chartered Bank
40	36	Bayerische Vereinsbank[12]
41	35	Commerzbank[12]
42	53	Yasuda Trust & Banking[7,8]
43	39	Amsterdam-Rotterdam Bank
44	43	Banca Commerciale Italiana[9]
45	51	Nippon Credit Bank[7,8]
46	40	Rabobank
47	42	Bayerische Landesbank Girozentrale[7]
48	46	Bayerische Hypotheken- und Wechsel-Bank[12]
49	48	Credit Suisse[7]
50	47	Toronto-Dominion Bank[13]

[1] Asset figures have been converted into U.S. dollars using the market rate prevailing at each bank's fiscal year-end, which is December 31, 1983, unless otherwise noted. Daiwa Bank, Mitsubishi Trust & Banking, Mitsui Trust & Banking, Sumitomo Trust & Banking, Toyo Trust & Banking, Yasuda Trust & Banking, and Chuo Trust & Banking include holdings of major trusts in their assets.

COUNTRY	ASSETS[1]	INCREASE (DECREASE)		DEPOSITS[2]		LOANS[3]	NET INCOME[4]	STOCK-HOLDERS' EQUITY[5]	OFFICES[6]	EMPLOYEES
		IN U.S. DOLLARS	IN LOCAL CURRENCIES							
	$000	PERCENT	PERCENT	$000	RANK	$000	$000	$000		
Japan	116,639,338	23.93	8.85	87,071,818	1	67,821,265	175,470	1,983,352	353	23,001
Japan	108,495,918	24.13	9.02	78,914,759	5	57,771,076	260,688	2,243,492	268	17,184
Japan	105,565,992	23.99	8.90	77,194,432	8	55,645,945	275,127	2,272,213	244	13,797
Japan	101,475,349	18.78	4.33	74,858,226	10	54,354,309	189,175	2,015,922	220	18,328
France	101,170,644	(7.77)	14.05	86,770,258	2	81,109,454	187,387	1,543,090	2,600	60,615
Japan	95,440,356	20.28	5.64	73,204,507	11	53,686,510	173,890	1,774,076	265	16,645
Britain	94,208,156	(1.39)	9.92	82,777,593	3	82,824,041	438,090	4,294,988	5,570	135,000[10]
France	90,346,695	(8.08)	13.67	75,975,525	9	51,413,149	212,528	2,667,295	10,787	72,834
France	88,255,516	(8.56)	13.08	77,606,135	7	70,661,518	134,859	1,184,420	2,592	54,839
Britain	87,114,675	(1.19)	10.15	80,192,472	4	77,221,251	600,289	4,196,286	3,836	92,000
France	86,475,871	1.08	25.00	78,743,471	6	79,027,865	117,223	1,139,979	2,355	48,058
Japan	79,066,510	5.14	1.22	52,914,264	19	39,346,096	117,805	1,175,619	300	14,364
Germany	77,125,964	(7.92)	5.52	70,105,269	12	63,382,140	248,591	2,351,120	1,407	47,256
Britain	76,367,769	(1.67)	9.61	69,972,460	13	65,122,999	172,810	2,756,398	3,356	82,604
Japan	76,294,598	17.53	3.23	63,510,694	14	43,231,886	171,818	1,662,809	26	5,608
Japan	71,631,063	20.79	6.09	55,001,396	17	39,785,631	114,190	1,206,582	211	11,985
Japan	69,604,444	16.17	11.84	61,008,126	15	37,563,000	61,022	381,121	38	3,123
Canada	68,701,787	(4.77)	(4.27)	60,351,459	16	47,109,273	389,922	2,676,347	1,536	38,687
Japan	66,848,398	19.62	5.06	51,431,097	23	37,591,818	107,313	1,187,091	237	14,713
Japan	65,057,029	26.72	11.30	52,669,998	21	39,237,029	115,807	1,345,695	25	3,608
France	60,597,361	17.74	45.61	32,807,918	45	32,481,224	73,077	1,233,953	1,170	26,800
Hong Kong	60,447,915	3.30	24.03	52,860,356	20	37,744,489	343,137	2,517,319	1,114	45,000[10]
Germany	59,021,710	2.11	17.01	54,945,211	18	48,418,377	145,085	1,584,327	1,179	31,920
Japan	58,745,580	25.99	10.66	51,875,930	22	29,481,910	50,111	777,501	57	6,649
Japan	55,950,023	17.99	3.63	43,908,262	31	34,101,787	80,282	1,010,592	354	15,801
Britain	55,784,048	0.06	11.54	49,496,150	24	50,233,512	418,383	3,183,139	2,986	69,287
Canada	55,258,827	(1.00)	(0.47)	48,895,723	25	39,851,066	255,787	1,993,712	1,640	33,525
Japan	53,591,496	25.78	10.47	47,414,717	27	28,304,702	50,899	775,425	59	6,281
Brazil	53,057,296	(14.06)	234.68	24,848,527	59	46,855,806	858,091	3,333,904	2,135	116,971
Switzerland	52,841,652	(0.26)	8.26	45,266,685	28	40,522,666	240,891	2,703,203	249	17,237
Japan	52,151,615	26.30	10.93	44,095,943	30	27,813,703	43,386	655,141	55	6,030
Canada	51,269,050	1.34	1.88	44,880,484	29	33,706,246	229,529	1,937,012	1,218	29,125
Germany	51,159,387	(8.50)	4.86	47,646,487	26	42,516,349	(49)	1,446,594	13	17,227
Japan	49,040,569	22.98	8.01	40,510,329	33	25,738,914	64,239	762,627	185	10,358
Switzerland	48,258,803	0.07	8.61	42,206,988	32	34,515,789	204,249	2,413,369	210	14,347
Canada	44,465,858	1.66	2.20	39,465,486	34	28,809,044	282,478	1,493,270	1,200	25,537
Italy	43,827,555	(7.30)	11.97	38,233,136	38	28,070,361	70,002	2,079,230	394	24,513
Netherlands	43,304,207	(8.28)	6.99	39,136,436	36	23,987,375	134,482	1,192,710	961	28,407
Britain	41,973,606	6.73	18.97	36,460,954	39	35,162,007	135,520	1,842,824	1,825	55,120
Germany	41,662,223	(6.13)	7.56	39,071,575	37	36,270,871	63,307	783,597	472	12,979
Germany	41,559,536	(8.69)	4.63	39,253,233	35	35,109,288	82,554	1,040,368	884	22,047
Japan	40,993,155	34.34	17.99	35,808,559	42	20,590,770	32,694	430,698	54	5,290
Netherlands	40,028,161	(6.04)	9.60	36,399,726	40	21,631,765	73,355	985,959	845	23,498
Italy	39,328,347	(1.59)	18.87	34,605,518	43	27,766,973	76,859	1,540,908	534	23,027
Japan	38,769,820	26.67	11.26	31,593,919	46	25,729,425	69,712	853,338	21	1,979
Netherlands	38,630,293	(7.95)	7.38	36,261,085	41	28,027,130	198,108	1,891,128	3,040	28,536
Germany	36,867,227	(8.62)	4.72	30,668,546	47	29,220,731	53,239	860,917	5	4,072
Germany	35,649,042	(7.93)	5.51	33,392,895	44	30,926,183	53,526	766,233	490	11,296
Switzerland	35,460,439	(3.14)	5.13	30,328,282	48	25,707,377	167,383	2,267,915	179	12,260
Canada	34,470,307	(6.16)	(5.66)	30,067,709	49	25,000,012	264,155	1,545,811	993	17,571

[2] Deposit figures have been converted into U.S. dollars using the market rate as of each bank's fiscal year-end. Figures for all German banks include their own bonds; so do the figures for Bank of Tokyo, Industrial Bank of Japan, Long-Term Credit Bank of Japan, and Norinchukin Bank. Banco do Brasil includes funds for refinancing.

[3] Loan figures have been converted to U.S. dollars using the market rate prevailing at each bank's fiscal year-end. Figures include loans to banks and at call or available on short notice.

[4] Net income figures have been converted into U.S. dollars using the average rate in the official exchange market during the bank's fiscal year. Net income is after taxes and excludes minority interest.

[5] Stockholders' equity figures have been converted into U.S. dollars using the market rate prevailing at each bank's fiscal year-end. Equity is the sum of capital stock, surplus, and retained earnings. Figures for all French banks are before appropriation of profits.

[6] Includes head office, branches, and agencies.

[7] Parent company only.

[8] Figures are for fiscal year ended September 30, 1983.

THE 100 LARGEST COMMERCIAL BANKING COMPANIES

RANK '83	RANK '82	BANK	COUNTRY	ASSETS[1] $000	INCREASE (DECREASE) IN U.S. DOLLARS PERCENT	INCREASE (DECREASE) IN LOCAL CURRENCIES PERCENT	DEPOSITS[2] $000	DEPOSITS RANK
51	54	**Kyowa Bank[7,8]**	Japan	34,183,140	15.06	1.06	26,983,442	53
52	●	**Bank Melli Iran[9,14]**	Iran	33,826,679	14.32	18.19	21,482,265	65
53	●	**Shoko Chukin Bank[7,9,11]**	Japan	31,557,318	14.07	9.82	28,482,686	50
54	61	**Saitama Bank[7,8]**	Japan	31,368,602	18.21	3.82	25,512,862	57
55	64	**Toyo Trust & Banking[7,8]**	Japan	31,283,768	30.28	14.43	28,306,272	51
56	49	**Cassa di Risparmio delle Provincie Lombarde**	Italy	31,273,393	(2.97)	17.19	24,915,629	58
57	96	**Westpac Banking[8]**	Australia	30,973,493	111.15	123.49	23,925,283	61
58	63	**Norddeutsche Landesbank Girozentrale[9,12]**	Germany	30,691,769	22.80	40.72	28,143,551	52
59	82	**State Bank of India[9]**	India	30,412,387	1.47	10.65	20,522,860	69
60	50	**Istituto Bancario San Paulo di Torino**	Italy	30,399,112	(2.68)	17.56	23,903,079	62
61	62	**Crédit Industriel et Commercial[9]**	France	29,412,402	13.43	40.27	24,083,237	60
62	52	**Société Générale de Banque**	Belgium	29,241,842	(4.29)	13.69	26,142,524	55
63	58	**Credito Italiano[9]**	Italy	29,238,936	2.35	23.62	26,140,997	56
64	56	**Deutsche Genossenschaftsbank[12]**	Germany	28,501,005	(2.64)	11.57	26,880,410	54
65	68	**Hokkaido Takushoku Bank[7,8]**	Japan	28,127,804	22.53	7.61	20,831,360	66
66	59	**Monte dei Paschi di Siena**	Italy	27,528,768	(3.55)	16.50	23,622,818	64
67	57	**Cie Financière de Suez[9]**	France	27,135,573	(7.23)	14.73	17,699,820	76
68	55	**Banco di Roma[9]**	Italy	27,106,240	(7.63)	11.57	23,899,245	63
69	73	**Bank of Yokohama[7,8]**	Japan	25,101,108	21.87	7.04	20,576,758	68
70	60	**Hessische Landesbank-Girozentrale-[12]**	Germany	24,093,566	(11.37)	1.56	19,944,440	71
71	66	**Commonwealth Banking[9,15]**	Australia	22,933,804	11.72	30.46	16,819,642	78
72	81	**Rafidain Bank[9]**	Iraq	22,364,663	20.47	20.47	20,744,583	67
73	80	**Banco di Napoli[9]**	Italy	21,698,950	14.34	38.10	17,995,083	75
74	72	**Banque Bruxelles Lambert[8]**	Belgium	21,657,396	0.53	9.45	19,597,187	72
75	65	**Bank für Gemeinwirtschaft**	Germany	21,546,777	(9.18)	4.07	20,375,961	70
76	67	**Bank Leumi le-Israel[12]**	Israel	21,321,211	(8.48)	193.19	18,189,977	74
77	77	**National Australia Bank[8]**	Australia	20,887,115	7.22	13.48	14,157,891	86
78	69	**Nederlandsche Middenstandsbank**	Netherlands	20,680,411	(8.84)	6.34	19,524,904	73
79	70	**Groupe des Banques Populaires**	France	20,399,520	(8.68)	12.93	12,554,529	96
80	76	**Australia & New Zealand Banking[6]**	Australia	20,387,811	3.58	9.64	13,325,485	91
81	79	**Skandinaviska Enskilda Banken**	Sweden	20,327,840	6.47	16.67	16,360,924	80
82	71	**Bank Hapoalim**	Israel	19,394,825	(12.47)	180.41	14,368,676	84
83	75	**Creditanstalt-Bankverein[9,12]**	Austria	19,068,317	5.58	8.37	17,515,701	77
84	78	**Crédit Communal de Belgique**	Belgium	18,348,519	(5.21)	12.59	16,204,414	81
85	98	**Chuo Trust & Banking[7,8]**	Japan	17,904,388	25.48	10.21	16,677,288	79
86	85	**Svenska Handelsbanken**	Sweden	17,657,179	7.49	17.78	13,019,850	93
87	83	**Crédit Mutuel**	France	17,187,248	(5.40)	16.99	14,014,152	88
88	●	**ASLK-CGER**	Belgium	16,755,735	(8.27)	8.97	14,167,564	85
89	●	**Royal Bank of Scotland[8]**	Britain	16,589,424	6.93	19.20	14,529,487	82
90	●	**Hokuriku Bank[7,8]**	Japan	16,534,309	36.92	20.26	14,044,333	87
91	84	**Banque Française du Commerce Extérieur[9]**	France	16,456,547	(4.86)	17.66	8,041,794	100
92	89	**Crédit Commercial de France[9,16]**	France	16,078,140	3.32	27.77	13,435,962	90
93	74	**Kredietbank[11]**	Belgium	15,693,724	6.00	11.92	14,483,175	83
94	●	**Chiba Bank[7,8]**	Japan	15,449,735	29.32	13.58	13,714,394	89
95	87	**Post-och Kreditbanken[9]**	Sweden	15,398,216	(3.98)	5.22	13,091,425	92
96	86	**Banco Central[7]**	Spain	15,020,491	(8.46)	14.28	12,510,300	97
97	95	**National Commercial Bank of Saudi Arabia[17]**	Saudi Arabia	14,708,438	(1.20)	(0.05)	12,659,757	95
98	93	**Banco di Sicilia[9]**	Italy	14,621,852	(3.84)	16.15	12,025,078	98
99	●	**Joyo Bank[7,8]**	Japan	14,505,007	29.06	13.36	12,807,184	94
100	90	**Banco Español de Crédito[7]**	Spain	14,496,658	(5.90)	17.47	11,359,337	99
		TOTALS		**4,277,582,327**			**3,542,996,311**	

● Not on last year's list.
N.A. Not available.
[9] Government owned.
[10] Average for the year.
[11] Figures are for fiscal year ended March 31, 1983.
[12] Excludes some subsidiaries more than 50% owned.
[13] Figures are for fiscal year ended October 31, 1983.
[14] Figures are for fiscal year ended March 20, 1983.
[15] Figures are for fiscal year ended June 30, 1983.
[16] Includes certain subsidiaries owned 50% or less, either fully or on a prorated basis.
[17] Figures are for fiscal year ended October 6, 1983.

LOANS[3] $000	NET INCOME[4] $000	STOCK-HOLDERS' EQUITY[5] $000	OFFICES[6]	EMPLOYEES
22,493,596	52,471	719,945	240	11,199
10,802,597	18,957	358,578	1,624	17,978
26,840,285	22,053	809,113	90	7,354
18,766,989	53,915	646,684	190	8,649
15,938,994	30,183	393,401	54	4,848
18,130,090	32,241	1,652,584	531	13,426
21,138,078	220,064	1,317,105	1,950	39,124
25,554,078	31,025	531,744	224	5,950
13,712,395	24,920	333,459	9,712	243,419
11,875,740	245,183	1,252,781	504	14,059
14,058,309	9,050	416,065	1,434	26,342
19,199,013	59,011	889,050	1,184	15,677
21,239,616	68,674	1,321,319	472	18,486
23,841,928	39,164	517,952	11	2,332
16,314,844	38,836	467,006	189	7,196
19,720,493	47,507	1,828,638	712	15,223
21,628,554	138,414	1,238,632	309	10,875
18,798,357	66,134	339,384	463	16,831
15,781,642	54,157	680,110	191	7,371
17,995,456	29,975	479,906	7	2,853
12,373,497	143,377	794,216	1,315	31,713
11,696,180	379,101	N.A.	236	12,559
8,389,096	5,575	672,685	493	13,801
7,722,844	33,598	345,697	990	11,727
17,475,023	43,392	694,202	275	8,266
11,504,920	69,344	271,106	450	15,339
12,376,063	156,269	937,984	1,845	22,137
13,286,088	35,232	466,299	472	11,359
8,242,352	N.A.	712,178	1,810	28,500
12,290,856	180,493	1,071,923	1,437	25,991
10,782,272	36,754	333,708	381	7,430[10]
14,783,941	59,065	192,087	379	10,515
11,002,777	16,654	489,687	313	9,314
12,081,841	10,172	323,862	1,402	2,806
8,882,359	9,556	124,600	52	3,754
9,395,256	40,364	178,277	454	5,811[10]
7,678,563	57,778	622,833	4,400	17,880
16,197,487	6,726	560,384	1,070	8,184
13,925,615	145,919	1,199,807	879	16,240[10]
11,973,881	33,404	434,072	168	5,433
7,805,006	6,971	153,815	47	2,928
12,679,711	27,464	331,609	250	7,200
8,090,700	34,930	319,906	755	8,566
11,307,757	43,481	482,364	148	5,364
8,004,107	21,187	161,810	130	3,729[10]
9,727,321	92,411	599,892	1,959	19,252
6,105,397	157,887	905,755	151	6,104[10]
8,619,802	8,766	572,664	318	9,141
9,850,528	44,900	509,213	134	5,847
8,188,099	102,707	852,251	2,189	18,800[10]
2,814,472,506	**12,363,887**	**117,370,964**		**2,361,821**

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The figures in this FORTUNE *International 500 Directory were prepared by reporters Darienne L. Dennis and Royce D. Wolfe. The figures on the 100 Largest Commercial Banking Companies Outside the U.S. were prepared by reporter Robert E. Norton.*

SEPTEMBER 3, 1984
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FORTUNE

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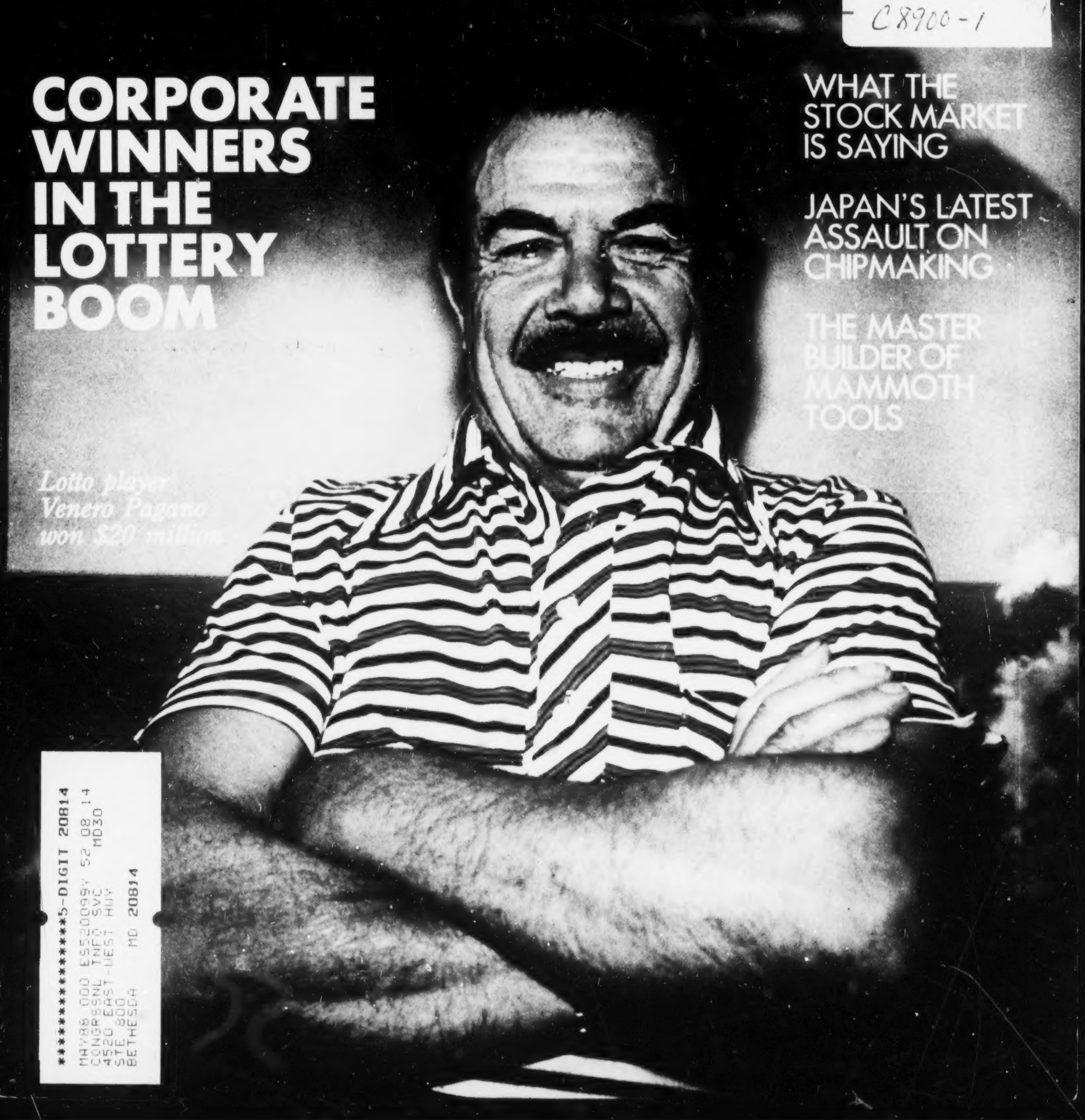
CORPORATE WINNERS IN THE LOTTERY BOOM

WHAT THE STOCK MARKET IS SAYING

JAPAN'S LATEST ASSAULT ON CHIPMAKING

THE MASTER BUILDER OF MAMMOTH TOOLS



Lotto player Venero Pagano won $20 million

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SEPTEMBER 3, 1984

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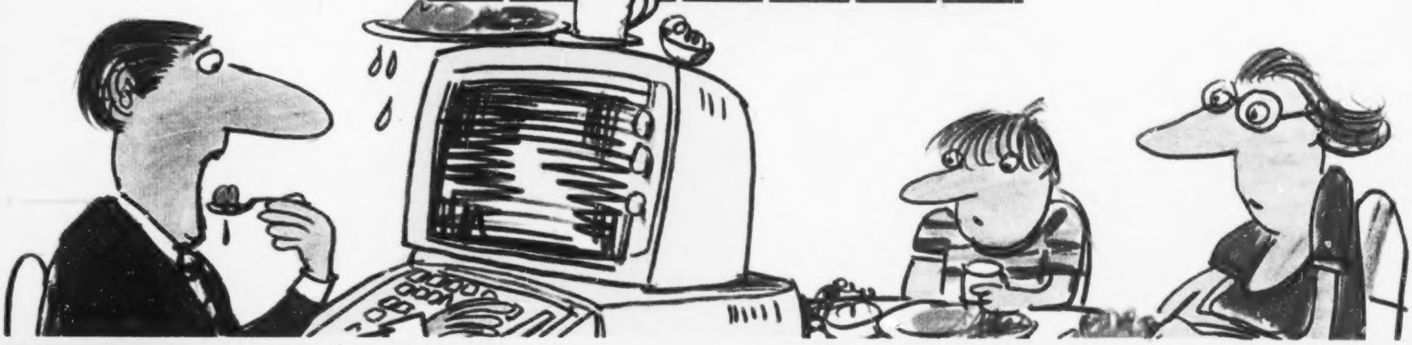

On top of the world after winning the New York lottery, Venero Pagano lunched at a pricey restaurant on the 107th floor of the World Trade Center. Arlene Gottfried shot the photo. For companies that are cashing in, see page 20.

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JAPAN'S LATEST ASSAULT ON CHIPMAKING

This time the Japanese are winning business from U.S. manufacturers of chipmaking machinery, and more is at stake than the $5.8-billion-a-year semiconductor equipment market. The country with the best hardware may gain a technological edge in chips.

■ *by Bro Uttal*

BEHIND THE NOISY BATTLE between U.S. and Japanese companies to dominate the semiconductor business lies a quieter but equally serious contest. At stake is the $5.8-billion-a-year worldwide market for the machines that churn out the chips. U.S. manufacturers still hold the upper hand, but they've been losing market share to Japanese challengers, whose technology has proved surprisingly good. Some U.S. chipmakers, who bitterly recall their defeat in the most popular computer memory chips—Japanese companies now claim some 55% of that market—think they can see the ideograms on the wall. Michael Hackworth, a senior vice president at Signetics, one of the top ten semiconductor manufacturers in the U.S., says: "Early indications are that the Japanese could win the equipment market too."

Japanese companies have scored the most hits in their home market, which at about $2.5 billion this year is expected to be only $200 million less than the U.S. semiconductor equipment market. Since the 1970s the Japanese have held the largest share of their home market, but only because they dominated sales of older and less sophisticated gear. In 1980, for example, Americans supplied 34% of all types of chip production equipment sold in Japan, but 50% or more of the kinds of advanced hardware needed to make the most powerful memory chips.

Then in 1980 and 1981, says Vice President G. Dan Hutcheson of VLSI Research, a California market analysis group, "Japanese competitors emerged with stunning aggressiveness, slashing away at the U.S. share of their market." Suddenly the Japanese were pushing state-of-the-art equipment in the high-tech end of the market. Techno Systems Research, a Tokyo firm, estimates that the U.S. share of the market for advanced equipment in Japan has dropped to 32%. What's more, 11 Japanese companies have established beachheads in the U.S., where they hope to sell more than $125 million of machinery this year.

The Japanese challenge has galvanized U.S. semiconductor equipment companies, which hope to contain the new competitors by fighting harder in Japan. Many of them are striving for the first time to master the intricacies of selling and servicing high-tech goods in an environment quite different from that of the U.S.

The latest Japanese threat also worries U.S. chipmakers, but not because Japanese equipment can turn out chips superior to those made by U.S. equipment. The Japanese machines excel because they are often more reliable and easier to set up. These are important considerations. A chipmaker's costs depend on yield, the number of good chips that can be sliced from a silicon wafer. Yield typically rises with experience in production, so equipment that goes into production speedily and seldom breaks down can raise yield faster. Chipmakers with the highest yields have the lowest costs and command the largest market shares. The implications for Japanese chipmakers, which get first crack at locally made equipment, are not lost on U.S. competitors.

The rise of Japan's semiconductor equipment companies also gives Japanese chipmakers a better shot at leapfrogging U.S. technology. Chipmakers and equipment suppliers often work together to develop new machines for turning out leading-edge semiconductors. A stronger Japanese equipment industry is better able to give local chipmakers what they need to build advanced chips. While U.S. chipmakers could respond by purchasing Japanese equipment, they would get it months later than their Japanese counterparts, and the head start would be tough to overcome.

Creating electronic circuits on silicon chips is a process akin to lithography. Basically, chipmakers coat a wafer of crystalline silicon with material that raises or lowers the wafer's ability to conduct electricity. Then they cover that material with a light-sensitive film. A machine exposes selected parts of the film by projecting light through a mask having opaque areas that represent the thousands of electronic components in each chip. When the film is developed, the material beneath the exposed areas is etched away by chemicals. The result: a pattern that represents transistors, capacitors, and other elements. Complex chips can have a dozen or more of these patterns layered on top of each other and interconnected. The wafers are tested and sliced into chips, which are slipped into plastic or ceramic casings and bonded to thin gold wires. Processing a single wafer takes from four to six weeks.

Though the work requires plenty of delicate handling by humans, more than 60 kinds of equipment are used. At the low end are electromechanical devices for slicing up the

RESEARCH ASSOCIATE *Kate Ballen*

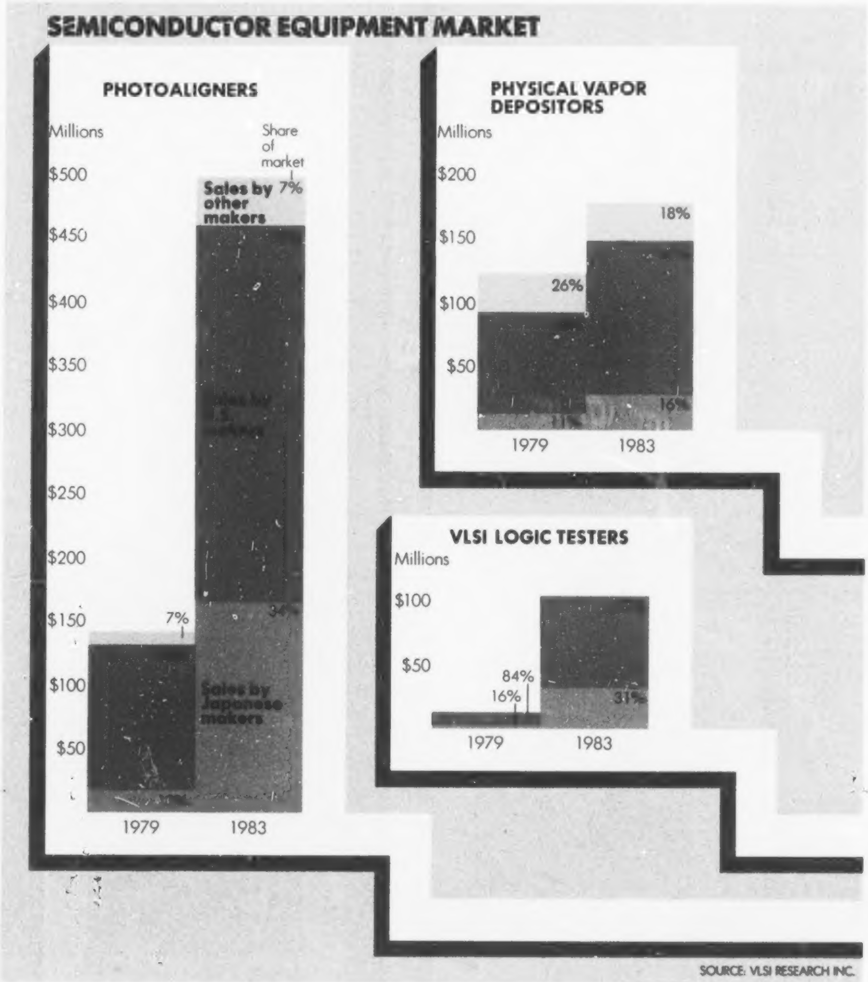
wafers, bonding the wires, and packaging. Japanese companies have been effective competitors in those areas for more than a decade. The really worrisome Japanese triumphs of late have come at the top of the market in such devices as the photoaligners that project the images onto the chip's surface. Worldwide, the hotly contested aligner business should be worth some $1 billion this year, more than any other segment.

Exposing chips to light is among the most critical steps in production. To improve yield, chipmakers push hard to shrink the size of each chip. This not only produces more chips per wafer, but also cuts down the percentage that are defective, because a flaw in the wafer will ruin a smaller share of the total. Shrinking the chip depends on shrinking the space between its elements, to as little as 2.5 microns (about one-twentieth the diameter of a human hair) on a 64K random access memory (RAM) chip, one that can store up to 65,536 pieces of information. But shrinking carries two big risks. If the image projected on a wafer isn't sharp enough, the edges of closely spaced elements will blur and touch, creating short circuits. And if successive layers of patterns are misaligned, they won't connect properly.

In 1977 GCA Corp. of Bedford, Massachusetts, introduced a new type of photoaligner that answered chipmakers' prayers. Instead of exposing a wafer all at once, it exposed one chip at a time, stepping across the wafer from chip to chip. Known as a stepper, GCA's machine vastly improved resolution. Adjusting focus for each chip instead of for hundreds of chips at a time cut the chance that successive layers wouldn't match up. Steppers can raise the yield of complex chips on a wafer threefold, so it's not surprising that they're in great demand, even though they cost from $400,000 to about $1 million. Hutcheson of VLSI Research estimates that chipmakers worldwide will buy 750 of them this year for some $580 million.

Gaining Share at the Leading Edge

Japanese semiconductor equipment companies are coming to the fore with gear for making the most advanced types of chips. Photoaligners project images of electronic elements onto the surfaces of chips. Physical vapor depositors leave very thin coatings of metal on the chips that connect electronic elements on different layers. VLSI (for very large scale integration) testers check the performance of computer logic chips that contain more than 100,000 elements.



SOURCE: VLSI RESEARCH INC.

JIM CAVANAGH

Steppers have been a good business for GCA, accounting for 45% of the company's $195 million in sales last year. Demand for most types of semiconductor equipment is so strong right now—especially for steppers, sales of which are up at least 50% over last year—that GCA and its rivals are operating at capacity. Competition is largely a matter of who can deliver machines fastest. Chipmakers should be able to get 300 steppers from GCA this year—and 250 from Nippon Kogaku, better known as Nikon.

Nikon launched its first stepper just four years ago. That it mastered this fiendishly difficult technology without any previous experience with aligners amazed competitors, who naturally ascribe Nikon's coup to the company's having copied GCA's design. U.S. equipment makers like to call Nikon's stepper "the best GCA stepper made."

NIKON'S ACHIEVEMENT, though, owes less to copying than to Japanese planning. Nikon didn't start from scratch. It is one of the few companies in the world able to make lenses fine enough for chipmaking. And for years Nikon did a small trade in unique optical systems for comparing copies of chipmaking masks with the originals to ensure that defects hadn't crept in when the copies were made. But Nikon hadn't decided to make steppers until some gentlemen from a Japanese group called the VLSI Research Project stopped by. (VLSI stands for very large scale integration, technology that crowds over 100,000 elements onto a silicon chip one-quarter the size of a postage stamp.)

Sponsored by MITI—Japan's famous Ministry of International Trade and Industry—the project was designed to give five of Japan's largest industrial electronics companies the tools to get a head start in VLSI chips. MITI and the five companies—NEC, Hitachi, Fujitsu, Toshiba, and Mitsubishi Electric—put up $285 million for the project, which doled out development contracts for new equipment. Financial help, says a Nikon executive, was less important than the chance to hook up with customers: "We got to work closely with all five leading companies, who wouldn't normally have disclosed their know-how and their needs to us. After the program ended, the engineers went back to their companies and naturally they wanted our equipment."

The other comer in photoaligners is Canon. Like Nikon, Canon enjoyed the patronage of MITI. Canon has been talking up a new stepper that is supposed to achieve excellent accuracy by aligning through the same lenses that the mask is projected through, somewhat as a single-lens-reflex camera does, instead of aligning through one set of lenses and projecting the image through another. Though Canon is late to market and has yet to announce a large order, it may become a formidable competitor. The company has already gobbled up much of the market in Japan, $48 million last year, for scanning projection aligners, which use a moving beam of light to create an image over the entire wafer. Much of that business used to belong to Perkin-Elmer, the largest producer of semiconductor equipment in the world (estimated 1984 sales: $290 million). Canon feels sure it can double sales of chipmaking gear to $127 million this year and is looking for $194 million in 1985.

Shigeru Nishioka, managing director of Canon's optical products group, claims that many leading U.S. chipmakers are interested in the novel stepper, and that a few have even visited the company's stepper factory in the town of Kosugi. Says a U.S. competitor, "Canon is so aggressive in marketing that when it comes on stream, Nikon will have real problems." So will GCA: that company's largest Japanese customer, Fujitsu, reportedly plans to replace GCA's steppers with Canon equipment.

After aligners, the Japanese have made their greatest strides in automatic testing equipment used both in research and development and in production. Last year Takeda Riken and Ando Electric split 65% of the $159-million Japanese market for testers almost evenly. Takeda Riken America is probably the most successful of all Japanese semiconductor-equipment export operations. Only three years old, it expects to rack up U.S. sales of $40 million this year. Ando is shooting for exports of $16 million.

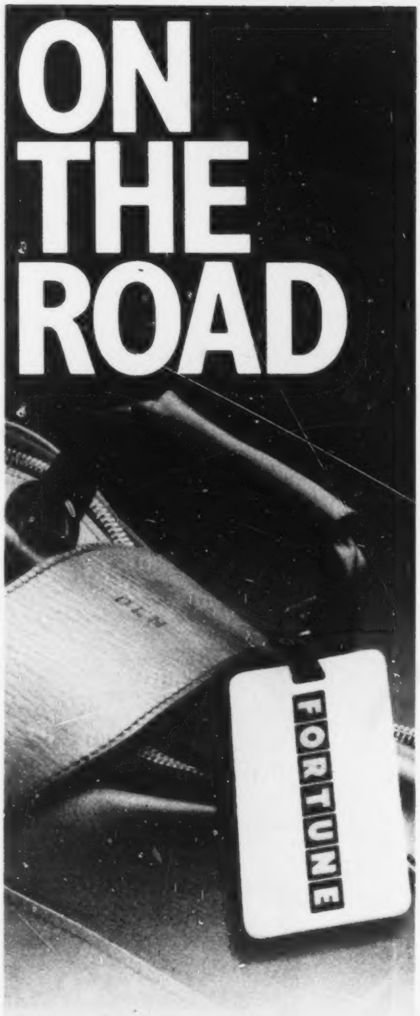
Both companies have prospered partly because Japanese chipmakers have a fetish for reliability and are willing to pay high prices for testers. Just as important, the main U.S. tester company in Japan had been Schlumberger Computer Aided Systems (formerly Fairchild Camera & Instrument), which has proved remarkably maladroit. Schlumberger was late with a whole generation of test equipment because it decided to make drastic design changes a few years ago. Then it split with its skilled Japanese distributor in 1982, having elected to take the risky course of setting up a direct sales operation. "That move opened a vacuum, and Takeda just strolled in," says James Bowen, once head of Schlumberger's tester group and now a vice president of Eaton Corp.'s semiconductor equipment operations. Over the last four years, Schlumberger's share of the tester business in Japan has collapsed from 30% to less than 5%, and it's still deflating.

TAKEDA RIKEN got a special boost from NTT, Japan's state-owned telephone company. NTT guided Takeda in developing the world's fastest research-and-development tester, which runs at 2½ times the speed of today's most popular R&D testers. NTT helped defray the $6-million development cost by committing to buy two of the machines. All told, Takeda has sold only four of these $3.5-million monsters, but the development project led to a significant breakthrough that has bolstered its entire product line. Special hardware Takeda designed for the fast tester guarantees that it will monitor accurate signals as heat builds up in a chip. Takeda uses this design in all its VLSI testers.

At least a dozen other Japanese companies have tried to seize the lead in making exotic devices for wafer processing, such as chambers called plasma etchers that etch chips by immersing them in clouds of electrically charged corrosive gases. Some have gained strong positions, but none have won out over experienced U.S. companies like Varian Associates (estimated 1984 sales of semiconductor production equipment: $190 million) and Applied Materials ($162 million). Japanese customers, it seems, are usually happy to buy American if performance and service are right.

Success in Japan is vital to the future of U.S. equipment companies. Japanese chipmakers will spend proportionally more than their U.S. counterparts on capital equipment this year—around 30% of sales vs. 25%. If the Japanese continue to gain market share in chips worldwide, their equipment purchases will soon eclipse U.S. purchases. The only way for U.S. equipment companies to prevent the Japanese from picking up all of that business and then invading the U.S. in force is to keep shelling them on their home turf.

continued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CENTRAL EASTERN PENNSYLVANIA

The difficulty for American suppliers is that Japanese notions of performance and service are at odds with practice in the U.S. Japan's big five electronics companies account for about 60% of demand and either own stakes in or have "family" relations with most of the Japanese equipment companies. So the equipment companies tend to behave like captive suppliers. They take their ideas for new products from the big five, will customize anything, and are fearful of selling equipment that might break down.

By contrast, the executives who run U.S. equipment companies usually concentrate on the daring technology of their machines above all else and expect buyers of leading-edge gear to help work out bugs on the factory floor. "U.S. companies have a misunderstanding," says Tetsuo Iwasaki, the wily president of Applied Materials Japan, a wholly owned subsidiary of Applied Materials in the U.S. "They think the best features will sell the equipment. But most lost sales can be traced to a lack of commitment to the customer, not to a lack of features."

When U.S. equipment makers had a lock on the market in Japan, commitment didn't matter so much. Now that it does, they are finding it risky and fearsomely expensive. It usually means developing a force of service engineers in the field, accepting several years of losses, and eventually setting up a factory in Japan. Materials Research Corp. of Orangeburg, New York, and Schlumberger are taking that route now.

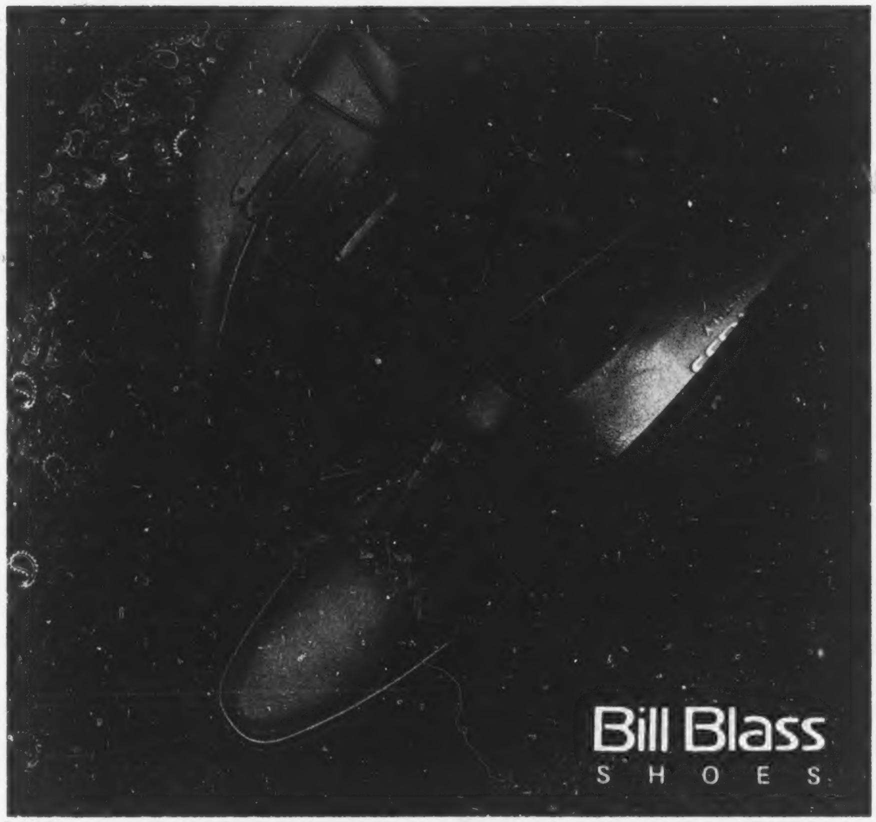
The most sensible strategy for U.S. companies probably is a joint venture with a Japanese manufacturer. And that's the advice many are getting these days from Tokuo Kubo, co-founder and chairman of Tokyo Electron Ltd., known as TEL. Kubo has 50%-owned joint ventures with five U.S. semiconductor equipment companies, distributes gear for 12 others, and manufactures two product lines under licenses from another U.S. company. TEL sold $164 million of chipmaking gear in Japan last year, more than any other company.

The division of labor between TEL and its partners reflects their respective talents. U.S. companies provide advanced technology. TEL supplies a highly regarded service operation and a staff of engineers to adapt U.S. equipment to local needs, including the need for reliability. Kubo's engineers, for example, have redesigned one of Varian's ion implanters—machines that drive charged particles into silicon to change its electrical properties—so it doesn't break down as often as the original and won't leak arsenic gas if there's an earthquake.

Doing a better job in Japan is only half the battle. Despite their modest penetration of the U.S. market, companies like Nikon and Takeda Riken are beginning to put pressure on American suppliers at home. Chipmakers who have tried Japanese equipment are delighted that the machines often can be set up faster, seem to break down less, and have no trouble meeting their specified performance levels. As an American plant manager puts it, "U.S. equipment is more advanced, but Japanese equipment is more developed." Customers are starting to use the threat of buying Japanese to bludgeon U.S. companies into better performance. Some equipment makers are responding. Varian brags in advertisements that its mask-making equipment can be installed in 19 days; installations used to take more than a month.

RELIABILITY will become increasingly important. So long as customers looked to new generations of aligners, etchers, and other processing gear to raise yield, U.S. equipment companies were able to flog technology at the expense of top-notch execution. The Japanese were at a disadvantage. "The leading edge is a moving target," notes Wilmer Bottoms, a vice president of Varian Associates. "But the Japanese tend to aim at what they have just seen, not at what's about to happen. By the time they hit the target, a new one has popped up." Advances in wafer processing technology, however, seem to be nearing the point of diminishing returns. The costs of improving yield by shrinking the space between the elements on a chip are on the verge of outweighing the benefits. So the Japanese will have more stable technological targets and can bring to bear their talent for execution.

Japan's focus on reliability may also be an advantage as chipmakers move toward automation. DM Data, an Arizona research firm, estimates that eliminating most human handling of wafers on the production line could, by reducing contamination, boost yields about 30%. While U.S. suppliers excel in the software needed to link dozens of different machines into an automated system, the Japanese, most observers think, have the lead in electromechanical technology for handling wafers. In automation, however, pure technology is less important than ensuring that the system always works. Both in today's market and tomorrow's, the prize will go to the equipment companies that make reliability their No. 1 goal.



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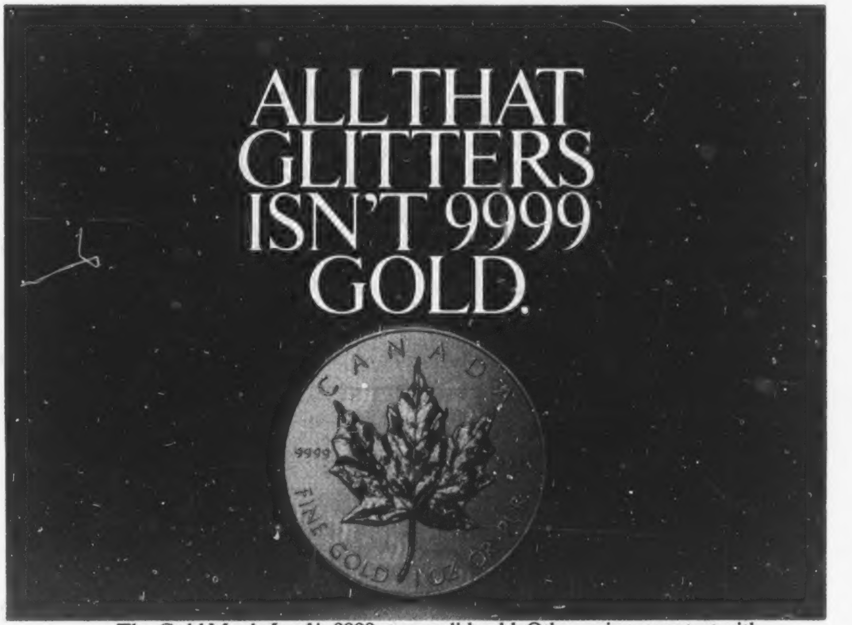

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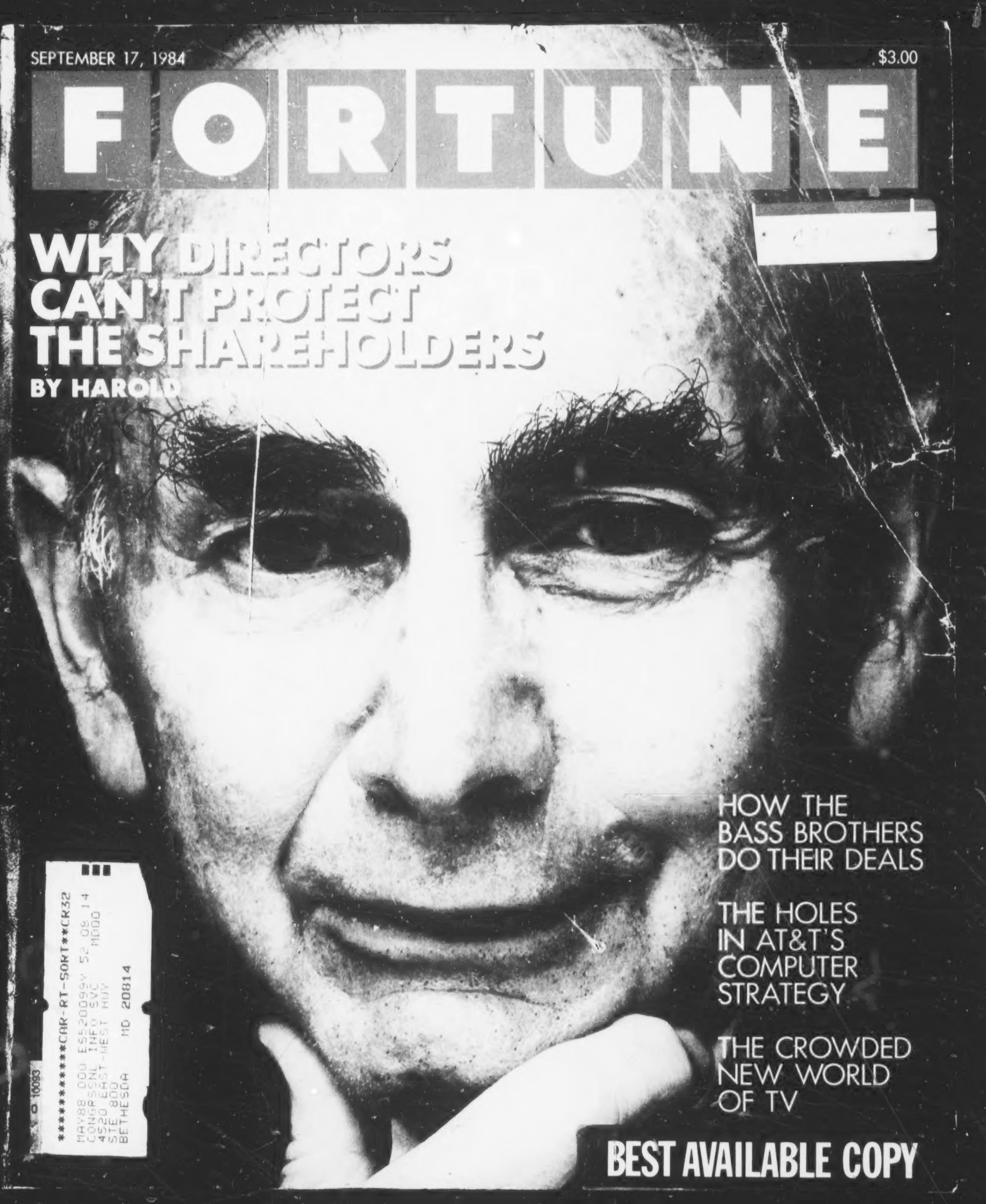

WHY DIRECTORS CAN'T PROTECT THE SHAREHOLDERS

BY HAROLD

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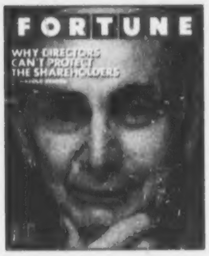
FORTUNE

Competition



During the 17 years he ran ITT, Harold Geneen, photographed for the cover by Alex Kayser, kept his board pretty much under his thumb. Looking back, Geneen thinks that was a bad idea. Excerpts from Geneen's forthcoming memoirs begin on page 28.

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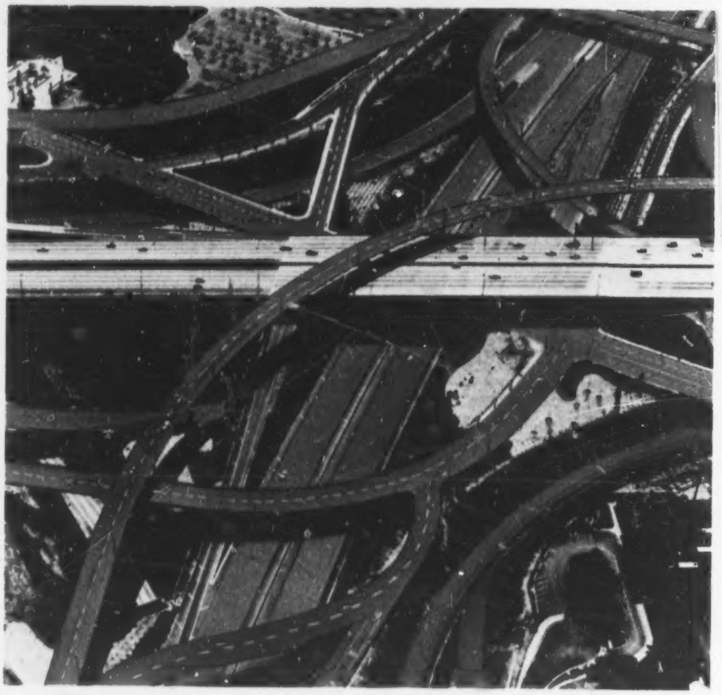
SEEING BEYOND TODAY'S COMPLEXITIES FOR A BRIGHTER TOMORROW



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ly to support a bureaucracy that spews endless statistics to legitimize a corporate presence in South Africa. American corporations are in South Africa to make money in any way they can. They are not in South Africa to be agents for change. They have institutionalized the Sullivan "Principles" as a public relations effort by voluntarily allowing nonwhites to share restrooms and cafeterias with whites. Big deal.

The Sullivan "Principles" have done and will continue to do nothing to change the fundamental structure of apartheid. Almost one-half billion dollars in securities have been divested by institutional investors, and new securities issued by corporations active in South Africa will not be purchased. Divestiture is by far the most important weapon being used to bring real economic pressure to bear against a government whose cancer has lingered much too long.

JOHN C. HARRINGTON
San Francisco

Snail Shortage

The August 6 Editor's Desk left me with a question. If 6,712 metric tons of snails were imported into France in 1982, where are they coming from? My husband is an escargot fan so we always ask for fresh snails in a restaurant. There are none to be had in New York or Washington. And now, apparently, there are very few in France also! Where do the French get their snails? Perhaps there is a market for a budding U.S. entrepreneur.

CHERYL M. KEYSER
Washington

In 1982 the French consumed 23,288 metric tons of their own snails. They imported most of the rest from Turkey, Greece, and Hungary.

Corrections

On its list of the 500 largest industrial corporations outside the U.S. (August 20) FORTUNE gave incorrect sales figures for several companies. In all cases FORTUNE's figures were lower than what the companies recorded. The correct figures and the corresponding sales ranks are: Toyota Motor, $20,608,660,000, No. 5; Sharp, $3,518,501,000, No. 130; Takeda Chemical, $2,081,615,000, No. 231; and Tokyo Sanyo Electric, $1,409,862,000, No. 320.

In addition, other figures should be corrected as follows: Hoechst (No. 19), net income: $287,961,000; Hyundai Group (No. 37), assets: $6,980,047,000; Toyobo (No. 233), employees: 18,300; Dainippon Ink & Chemicals (No. 283), stockholders' equity: $278,192,000; Thyssen-Bornemisza (No. 318), stockholders' equity: $366,000,000; Empresa Nacional del Petróleo (No. 328), sales: $1,388,273,000, assets: $1,146,294,000, net income: $82,722,000, stockholders' equity: $662,084,000. ■

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REAGAN'S SECOND-TERM AGENDA

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REAGAN'S SECOND-TERM AGENDA

President Reagan was photographed for FORTUNE's cover by Alen MacWeeney. A report on what a reelected Reagan would try to do next January is on page 26.

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MONEY & MARKETS

HOW GOOD ARE WALL STREET'S SECURITY ANALYSTS?

They work hard at understanding their industries, they have great contacts inside the companies they follow, they do tolerably well at forecasting quarterly earnings, and if only they knew how to pick stocks that go up, their customers could all be rich.

■ *by Anne B. Fisher*

SECURITY ANALYSTS are "the royalty of Wall Street," as one brokerage house executive put it recently, and they still command a lot of respect, not to mention salaries that get as high as $500,000 a year for the star performers. But security analysts have a large career problem these days. It centers on the growing suspicion that they're not really very good at what in principle is their main job—helping investors identify stocks that will outperform the market.

That suspicion is, in fact, shared by many brokerage firms which have accordingly redefined the analysts' job. Some firms now put much greater emphasis on a role that the analysts always played to some extent—getting business for the investment banking side. At some other firms they're increasingly viewed as expendable. Hundreds of analysts' jobs have disappeared on Wall Street during the past ten years, and not all of that loss can be laid to mergers among brokerage houses.

So the analysts have an identity crisis. What are they there for? Gerald A. Rothstein, associate director of research at Oppenheimer & Co., is sticking to the traditional view—analysts are there to help investors pick stocks. Generating detailed information about their industries isn't enough, Rothstein says: "The fact that XYZ Co. makes a certain number of widgets a year in a plant is utterly useless unless it affects an opinion on a stock."

Greg Smith, head of research at Prudential-Bache, disagrees. "Analysts spend an incredible number of hours staying on top of their field," he observed recently. "Brokers look to them to be stock pickers, but often they don't have time to study the market. They can't be expected to do everything." Smith is among those who encourage their analysts to bring investment banking business into the firm. An analyst who knows his industry inside out can tell you which private companies in it are mulling over an initial public offering, or which public companies might need some financing, and who might be talking merger. And, given the fees of investment bankers, it may well be that any such business brought in by the analysts would represent a superior return on all that expensive analytical talent.

In any case, more and more brokerage houses seem to be leaning toward Smith's view. Says the head of research at one prominent firm (who asked not to be named): "Analysts need not be right about stocks even half the time in order to fulfill the goals this firm sets out. All we ask is that they bring some business in the door."

Some firms, predictably, don't see why security analysts shouldn't handle both functions—pick stocks and target investment banking business too. Says John Hindelong, head of research at A.G. Becker Paribas, "You like to have a quarterback who can pass *and* run."

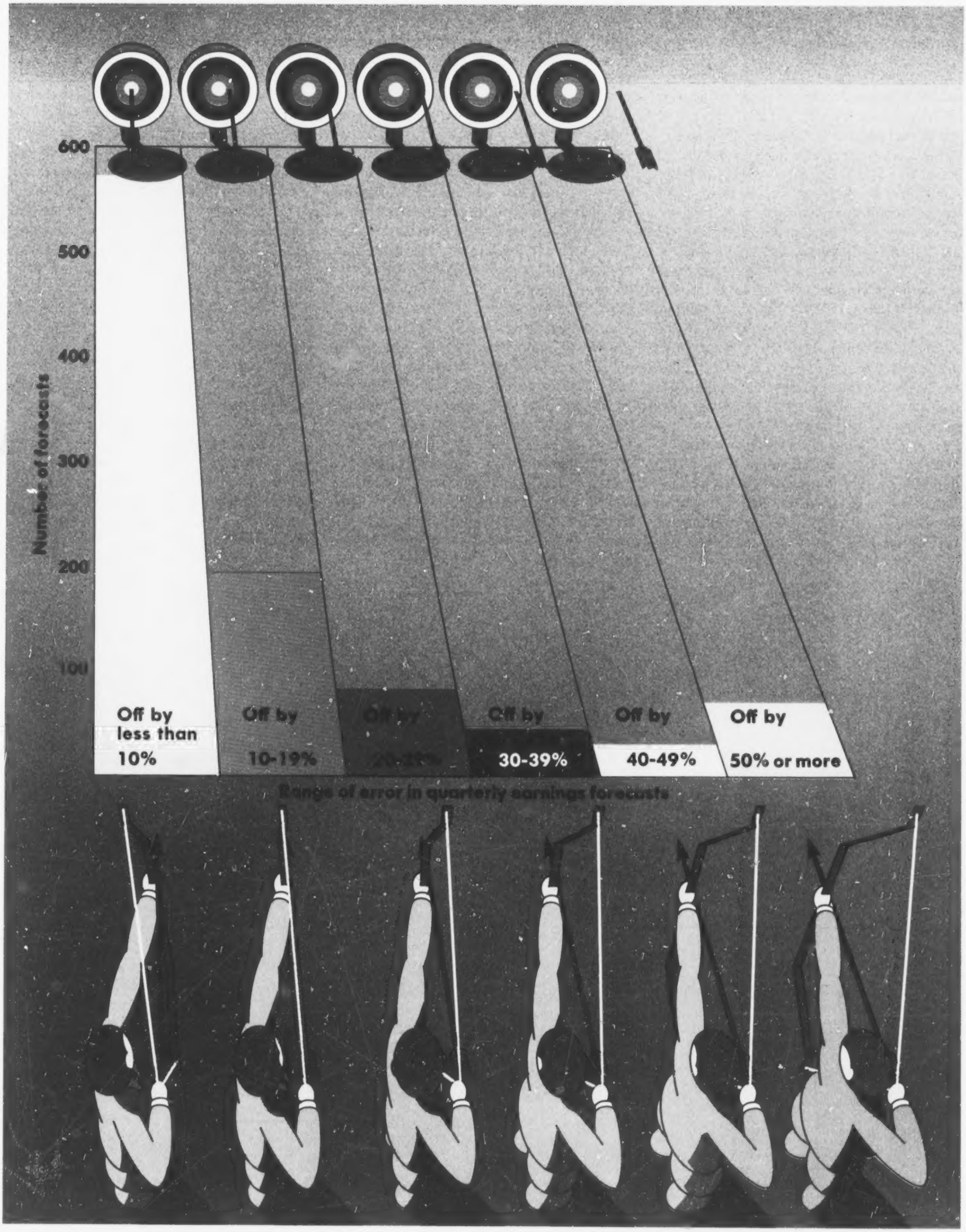
If analysts are generally poor stock-pickers, it isn't for lack of trying. They're typically on the road 15 to 30 weeks out of the year, interviewing managements of companies, haunting trade shows and conventions, and visiting institutional clients. The majority work hard at learning their industries intimately. Michael Culp, a restaurant analyst for Prudential-Bache, jet-hops around the country eating in fast-food emporiums and talking to the people who run them. "Usually they're very suspicious of me," Culp muses. "They think I've been sent from headquarters to spy on them."

Back at the office, analysts face long bouts of number crunching in efforts to come up with earnings estimates. When the numbers are inconclusive, the next move might be to try discreetly checking with the company. The SEC doesn't like companies flatly to disclose their in-house profit predictions to a single potential investor, but it doesn't seem to object to the companies and analysts playing a little guessing game. The analyst will say something like, "I'm projecting you'll earn $1.10." The company executive will reply, "We wouldn't be too unhappy with that number," or perhaps, "You know, our new Wonder Widget hasn't been doing so well overseas as we had hoped . . ." Listening closely to the nuances, the analyst decides whether to add a few cents to his estimate or

Some Were on Target

Those archers had quite varied results, but the record overall wasn't too bad. The data, compiled by Zacks Investment Research, refer to security analysts' earnings estimates for this year's second quarter. Altogether, Zacks found 1,002 companies for which a consensus forecast could be calculated. In 574 cases, the consensus—the average of what analysts were predicting—was off by less than 10%. Which, to be sure, doesn't mean that investors were making money.

RESEARCH ASSOCIATE *Ann Dransfield Louis*



ILLUSTRATIONS BY JOE LERTOLA

knock a few cents off. He then writes his report and, depending largely on what he says about earnings, his firm decides whether or not to recommend the stock to clients.

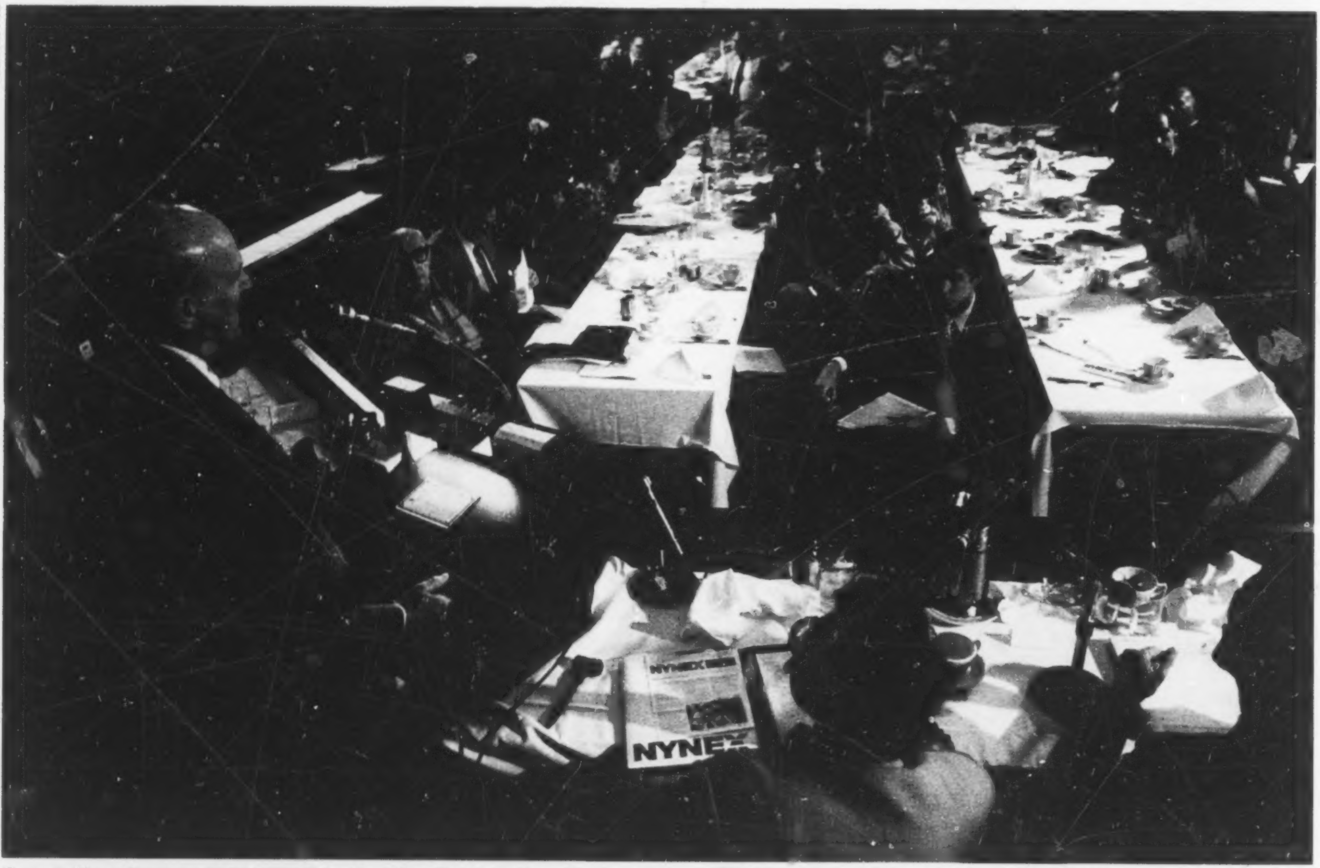
Estimating earnings is hardly an exact science. The luck factor is enormous in many industries. As the chart on the facing page makes clear, few analysts had much luck trying to outguess the oil market last year. On another front, they have underrated CBS recently. The company reported second-quarter earnings substantially higher than most analysts expected. What happened? Among other things, the first-round playoffs in the National Basketball Association went to five games for the first time ever, with the two extra games minting money for the network. And then, just as the second-quarter books were closing, CBS shipped the Jackson family's *Victory* album. At two million records, it was the biggest initial shipment of any album in CBS history. "The best analysts who follow us are as good as we are at predicting earnings," says a CBS executive. "But in a hit-driven business, who can tell?"

It is widely accepted on Wall Street that a good analyst has to stay close to the management of the companies he follows. Unfortunately, some analysts seem to feel, sometimes with reason, that staying close requires them to promote the stock; this would be especially true if the analyst is trying to get some investment banking business for the firm. In any case, closeness can work to undermine analysts' performance. The Baldwin-United debacle last year is a classic example. Most analysts following the company were chummy with Morley Thompson, the courtly and charming former piano salesman who had built the company into a financial services empire with sales of nearly $4 billion. Wall Streeters on a first-name basis with Thompson accepted without question his explanations of complicated tax shelter deals in the company's insurance subsidiaries. A Merrill Lynch vice president who strenuously recommended the stock was regularly spotted flying around the country with Thompson in a company jet. In mid-1982, as Baldwin's earnings and stock price soared, a poll of analysts voted Thompson one of the top C.E.O.s of the year.

But one Baldwin analyst, at least, had never met Thompson. James Chanos, then at Gilford Securities in Chicago, stuck to Baldwin's published data, came to understand the company's Byzantine finances, and concluded that those rising earnings were an illusion created by clever accounting. The outcome has become something of a Wall Street legend. Chanos got himself a big short position in the stock. By the time his colleagues knew what had hit them, Baldwin's share price fell from its high of $50.625 to less than $10. The company went bankrupt last fall.

CHANOS, now significantly richer and based at Atlantic Capital in New York, went against the crowd again in the summer of 1983, predicting that Waste Management's stock, then at $46, was overvalued and due for a tumble. That view put him on highly unfriendly terms with the numerous analysts who were friendly with Waste Management's management. Each of Chanos's "sell" recommendations was greeted by a volley of indignant rebuttals from analysts at A.G. Becker Paribas and

GEORGE LANGE

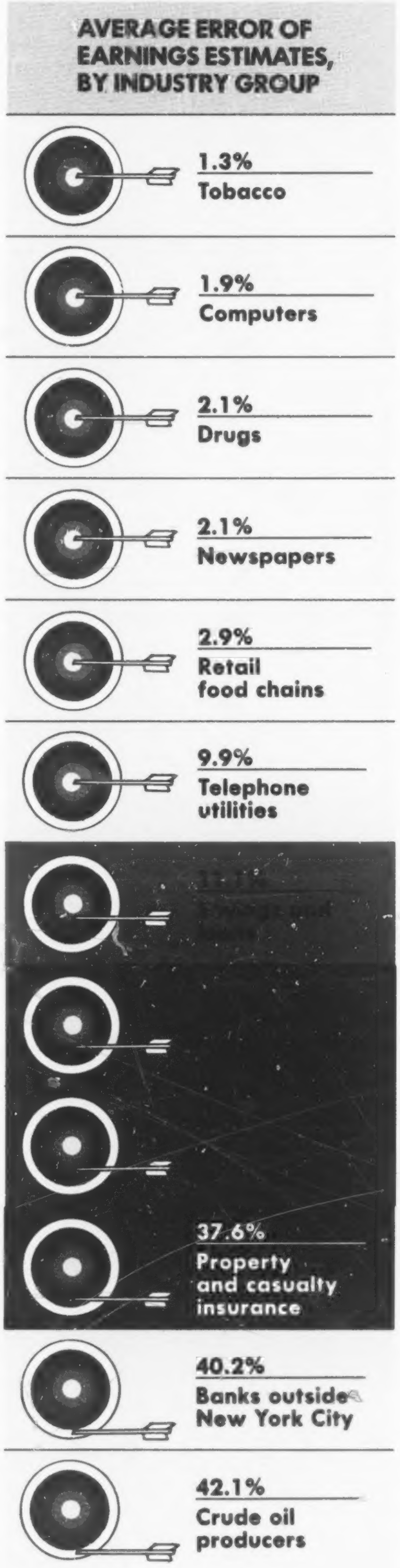


Spreading the gospel *at one of the New York Society of Security Analysts' monthly luncheons: NYNEX Chairman D. C. Staley*

Kidder Peabody. But Chanos is looking good again: in June 1984 the stock touched $27.25. “I don't even go visit companies I'm bullish on,” says Chanos. “It's too easy to get blindsided by management.” His unpopular method: study only the information the company has to file with the SEC, and eschew those cozy rides in the company plane.

But analysts who stay close to their companies also have stories to tell about the triumphs of their methods. Michael Krasko, a technology analyst at L.F. Rothschild who has followed Texas Instruments for ten years, routinely makes appointments to talk with executives at the company. Last summer, he suddenly observed that he was having trouble making appointments; he couldn't get in to see the head of TI's home computer division at the industry's annual trade show in Chicago. TI President J. Fred Bucy snubbed him too, Krasko recalls. He looked over the company's less-than-lustrous consumer product line and decided that Texas Instruments was probably not long for the home computer business. His pessimistic report, dated June 9, 1983, came out the day before TI's announcement of its expected $100-million loss.

In general, however, analysts haven't done well in the home computer industry. They have been far too eager to believe sanguine managements. Apparently believing that consumers would soon rush to buy home computers by the millions, and that numerous late starters in the industry would be transformed into giants, computer analysts touted the stocks at price/earnings multiples as high as 50. “People were concentrating on the growth rates in these companies,” says Duane Kirkpatrick, head of research at Woodman Kirkpatrick & Gilbreath, a San Francisco investment banking firm that specializes in high-tech issues. “If a company's sales are growing at 50% to 100% a year while the economy is growing by 8% or 9%, you are willing to focus on earnings that are far out into the future.” But the growth rates collapsed when IBM started to throw its weight around last fall. As a lot of badly burned investors are aware, the share prices of many computer stocks have dropped by 70% or 80%. Did analysts, who are supposed to factor competitive conditions into their earnings forecasts, really think that the biggest competitor of all would let the little guys catch up? One red-faced computer analyst concedes, “We should have anticipated the problem. We got a little carried away.”



Tobacco Is Easy

Some industries are harder to forecast than others. In the year ending June 30, the 1,500-odd analysts tracked by Zacks Investment Research were all over the lot, as usual.

In an effort to get past the endless anecdotal examples of failures and triumphs, a number of studies have tried systematically to measure the success of security analysts in forecasting earnings. Unfortunately, the findings of these studies have not all agreed with one another. One study performed by FORTUNE is depicted in the chart on page 131. Based on data from Zacks Investment Research, a Chicago firm that keeps track of analysts' earnings forecasts, it shows that analysts were recently able to predict earnings for the following quarter within 10% more than half the time. The chart at left makes clear that some industries are much easier to forecast than others.

A SCORE of academic studies have also tried to measure analysts' performance. Some of them have found that the analysts don't really do any better in forecasting earnings than you could do with a statistical model that simply extrapolated from past earnings growth. However, the best-known study says the analysts do better than that. This study, performed by professors Lawrence D. Brown of the State University of New York at Buffalo and Michael S. Rozeff of the University of Iowa, was done in 1978 and updated by Brown and others this year.

Their work compared the profit projections of analysts in 11 industries with projections made by a statistical model for all 16 quarters from 1973 through 1976. The model projected earnings by extrapolating past growth rates. In ten out of 11 industries, the analysts were closer to the mark on earnings than was the model. Bottom line: the analysts essentially pay for themselves. That is, an investor who was willing to foot the bill for the work done by a typical analyst could expect roughly to recover his costs in the form of somewhat improved investment results; however, he couldn't expect to do more than recover his costs. Furthermore, the Brown-Rozeff research demonstrated that no analyst consistently outperforms the statistical model. Doing better than the model in one year doesn't predict doing better the next year. Brown's recent addition to the original study used profit data from 1975 through 1980, and reached basically similar conclusions.

The Brown-Rozeff study was essentially concerned with forecasts ranging from one to five quarters ahead. A new study, published earlier this year by professors Sudhir Krishnamurthi of MIT and Michael Sandretto of Harvard, focused strictly on analysts' earnings forecasts made one year ahead—and found that the analysts do very poorly over this time horizon. The researchers compared 5,477 Wall Street earnings forecasts with actual earnings for the years 1977 through 1981. They found that the average forecast error among the analysts studied was a disquieting 31%.

And picking stocks is even harder than forecasting earnings. The biggest obstacle confronting security analysts trying to pick stocks is probably the stock market itself. Observes Maryann Keller, a star auto analyst who is now a money manager for Vilas-Fischer Associates: "Analysts tend to recommend stocks in a vacuum: this company is good, earnings will rise, therefore the stock will rise. But regardless of how well you grasp the fundamentals of a company—earnings, cash flow, market share, and so on—the market environment can make you a hero or a jerk."

LAST YEAR, for example, many analysts were pushing highly cyclical companies—including railroads, chemical makers, and machinery manufacturers—assuming that they would do well in the strong economy that was expected. In fact, the economy was strong and the companies' earnings have been rising. But their stocks have nevertheless not been in favor: after a brief upturn late in 1983, these stocks basically headed south, underperforming Standard & Poor's 500-stock index so far in 1984. Suresh Bhirud, chief investment strategist at First Boston, puts the blame on uncertainty about the durability of the recovery, and also on excessive caution among investors who were burned in the last recession.

Some analysts will admit privately that they haven't a clue about market movements. "A few weeks ago there were 50 good reasons not to buy stocks," says Barry Good, a veteran oil analyst at Morgan Stanley. "But the market has gone up 130 points since then. Businesses don't change that much in a few days or weeks. The changes are really in psychology. The market has become manic-depressive." He adds, somewhat wistfully: "On any stock, you can pound the table and insist that technically you are right. But the market doesn't give a damn."

Given these high levels of uncertainty, analysts' forecasts tend to be hedged, and even downright cryptic. Remember when a stock was rated either "buy" or (much more rarely) "sell"? Those simple days are over. A rating scale typically sports five categories, which might, for example, be: buy, okay to buy, neutral, okay to sell, and sell. To add to the general murkiness, lots of recommendations combine more than one rating, such as "short-term neutral, long-term okay to buy." As one portfolio manager somewhat cynically notes, "If nobody knows what you meant, they can't say you were wrong." Rating a stock neutral means never having to say you're sorry.

The endless variations in rating nomenclature offer another advantage: it's hard to contrast the stock-picking performance of different firms. An "okay to sell" from Merrill Lynch may not be strictly comparable to a "swap" from Smith Barney. Or then again it may.

It's no wonder Goldman Sachs is eager to talk. Investors hewing to its recommendations had higher returns than the Dow in each of the last six years.

In an attempt to discover whose analysts have the best stock-picking records, FORTUNE asked some major brokerage houses for records on the stocks they've recommended in the last few years. Merrill Lynch, First Boston, Smith Barney, Kidder Peabody, and Morgan Stanley all declined to share their records, although several of them allowed that they track their own performance closely. Executives at two of the firms cited a New York Stock Exchange rule against flaunting one's record. According to an attorney at the Exchange, however, there is no such rule, so long as the record covers at least one full year—and so long as it consistently tracks a specific universe of stocks, with no embarrassments omitted.

A number of other firms were forthcoming. It's no wonder that Goldman Sachs is eager to talk. An investor who hewed to the firm's recommended list, buying the stocks Goldman touted and selling the issues that dropped from Goldman's favor, would have reaped a higher total return (price appreciation plus dividend yield) than both the Dow Jones industrial average and the Standard & Poor's 400 in each of the past six years. Data provided by Salomon Brothers show that its picks have beaten the S&P 500 for the past two years. Drexel Burnham Lambert wouldn't disclose results for all the stocks it has recommended, but it's delighted to tell you that during the past year its "Priority List"—consisting of all those stocks rated strong buys—has had a total return of 21.4%, vs. 6.7% for the S&P 500.

Oppenheimer supplied figures on a different basis. Its data show that an investor who painstakingly followed Oppenheimer's recommended list would have seen his portfolio appreciate by more than the market in each of the past nine years. Shearson Lehman/American Express invites you to concentrate on certain long-run figures. The firm rates its own performance using a hypothetical stock portfolio that has existed since 1949. Of the 350 issues recommended since then, 228 have gone up, 112 have slipped, and ten didn't change at all during the period they were on the list.

Value Line, historically among the most respected of stock pickers, disappointed its followers in the first quarter of 1984, when the firm's top-ranked buy recommendations lagged behind the Dow. If, however, you had consistently bought their top-ranked stocks and held them for at least a year, you would have multiplied your capital more than 11-fold from 1965 through June 1984.

PRUDENTIAL-BACHE HASN'T been doing so well. This year the stocks it rated "1," which means "buy," underperformed the S&P 500. Even more mortifying, the seven stocks singled out for "5," or "sell," ratings collectively outperformed the market.

So the record would seem to show about what you'd expect: some analysts have been doing well in recent years, some have done poorly, the ones who are most eager to share their records with you generally seem to do quite well, and almost everyone tends to structure the performance record in ways that make the firm look best. All in all, the record doesn't really refute the widespread suspicion that security analysts aren't very good at picking stocks.

That doesn't mean, however, that Wall Street would be a better place without the analysts. If they didn't exist, the market would presumably be much less efficient, and investors would have much less reason to believe that their stocks are reasonably priced. In gathering and disseminating huge gobs of information about companies and stocks that investors wouldn't otherwise have, the analysts over the long run help to ensure that stocks are fairly valued. Maybe that's all we can ask of them. ■

new stock at the equivalent of about $8 per Centex share. Centex recently sold at $25.50, which implies a market valuation of $17.50—just above book value—for the rest of the company. That's only eight times the $2 to $2.25 that Millman of Rothschild Unterberg Towbin expects Centex without Cenergy to earn this year. It's also considerably less than half the $40 to $45 that Garrison of Lovett Mitchell Webb figures the company's assets are worth.

Ma Bell's Offspring Are Ringing Up Profits

■ On the basis of corporate earnings reports so far in 1984, Wall Street analysts have been revising many earnings projections downward for both this year and next. But those who follow the Bell operating companies have been doing just the opposite. Most of the regional holding companies created by the breakup of AT&T reported stronger than expected earnings for the first half of this year. Impressed by the companies' success in holding down expenses—not generally thought to be a forte of monopoly enterprises—analysts are now more confident that these companies will prosper in their new environment.

In response to good performance, stock prices of the AT&T spinoffs climbed some 11% in July and August. This climb has led some former ardent supporters of these equities, such as Ernest Liu of Goldman Sachs, to tab them as fully valued. The basic concern is that interest rates will rise, and that then the 8.6% yields now offered by the telephone stocks will no longer look attractive to income-oriented investors.

A number of analysts, though, are recommending the stocks. Edward Greenberg of Sanford C. Bernstein downplays what he considers to be undue emphasis on their sensitivity to interest rates. He argues that the Bell operating companies "are about the highest-quality utilities you can find." Charles Schelke of Smith Barney points out that most of the stocks still sell at a discount from book value and at a lower multiple than the S&P 500. He anticipates rises of 20% to 30% in their prices over the next year.

The earnings outlook is positive even though the companies face new competition in their yellow pages business (see Selling). Demand for telephone service is expected to remain buoyant, and over the last year or so most state commissions have been reasonable in allowing rate increases. In addition, some analysts expect that long-distance carriers will soon have to pay local telephone companies more for access to local lines. And higher earnings, Wall Streeters point out, imply higher dividends. Greenberg of Sanford C. Bernstein foresees 1985 increases of at least 5% for all the companies, with some—**Ameritech**, **Bell Atlantic**, **NYNEX**, and **Pacific Telesis**—able to raise their dividends by more than 10%.

So far, says John Bain of Shearson Lehman/American Express, "there is no burning case for buying one versus another." Other analysts agree. Says Liu of Goldman Sachs: "For now, investors must view all seven as very highly regulated local phone companies." Though the seven companies are diversifying, they are moving in much the same direction. All of them are marketing phone equipment and providing mobile phone service. Some differences between the companies are beginning to emerge but won't have much impact right away. **US West** has set up a subsidiary to develop commercial real estate. Pacific Telesis plans to go into real estate management. Ameritech has formed a partnership with seven other companies to offer burglar and fire alarm services to its Wisconsin customers. US West and Bell Atlantic are establishing subsidiaries that will buy telecommunications equipment and lease it to customers who prefer not to purchase equipment of their own.

Even now the seven operate in different regulatory environments. Because Pacific Telesis, for example, derives 95% of its revenues from phone service in California, any decision of that state's rate commission significantly affects the company's earnings prospects. Fortunately for Pacific Telesis, California's regulators have recently eased their tightfisted attitude. US West, with operations in 14 states, and **BellSouth**, in nine, might be called politically diversified.

The markets the companies serve are also diverse. NYNEX's heavy reliance on nonresidential customers—fully one-third of its revenues are generated in the southern half of Manhattan—is a mixed blessing. While such service provides nice profits, NYNEX's business customers, says Mark Luftig of Salomon Brothers, are targets for independent telecommunications companies.

With analysts unable to single out individual stocks despite emerging differences among the companies, some suggest that it might be reasonable to go with the cheapest. According to figures put together by Bain of Shearson Lehman, the companies selling at the lowest multiples of estimated 1984 earnings are Ameritech, **Southwestern Bell**, and Pacific Telesis. But Bain cheerfully says, speaking of all seven companies: "These are all fine investments for individuals."

PAGE 2

COMPANY	FIRST-HALF REVENUES in millions	NET INCOME in millions	STOCK PRICE RANGE	RECENT PRICE P/E multiple[1]
Ameritech	$4,101.3	$521.5	$62.125–$74.00	$72.50 7.3
Bell Atlantic	$3,981.1	$482.1	$65.00–$76.25	$74.75 7.5
BellSouth	$4,623.0	$568.4	$27.25–$32.75	$30.87 7.7
NYNEX	$4,638.9	$461.3	$58.625–$70.50	$68.75 7.2
Pacific Telesis	$3,772.7	$408.7	$51.25–$63.875	$61.87 7.7
Southwestern Bell	$3,466.5	$417.1	$55.00–$65.00	$63.50 7.3
US West	$3,542.9	$406.0	$55.125–$65.125	$61.00 7.0

[1] Based on earnings estimates for 1984 compiled by the Institutional Brokers Estimate System

Doing All Right on Their Own

The stocks of the Bell operating companies have far outperformed the market since they began trading last January. Analysts predict that strong earnings will propel the stocks to new highs.

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WHAT THE BABY-BOOMERS WILL BUY NEXT

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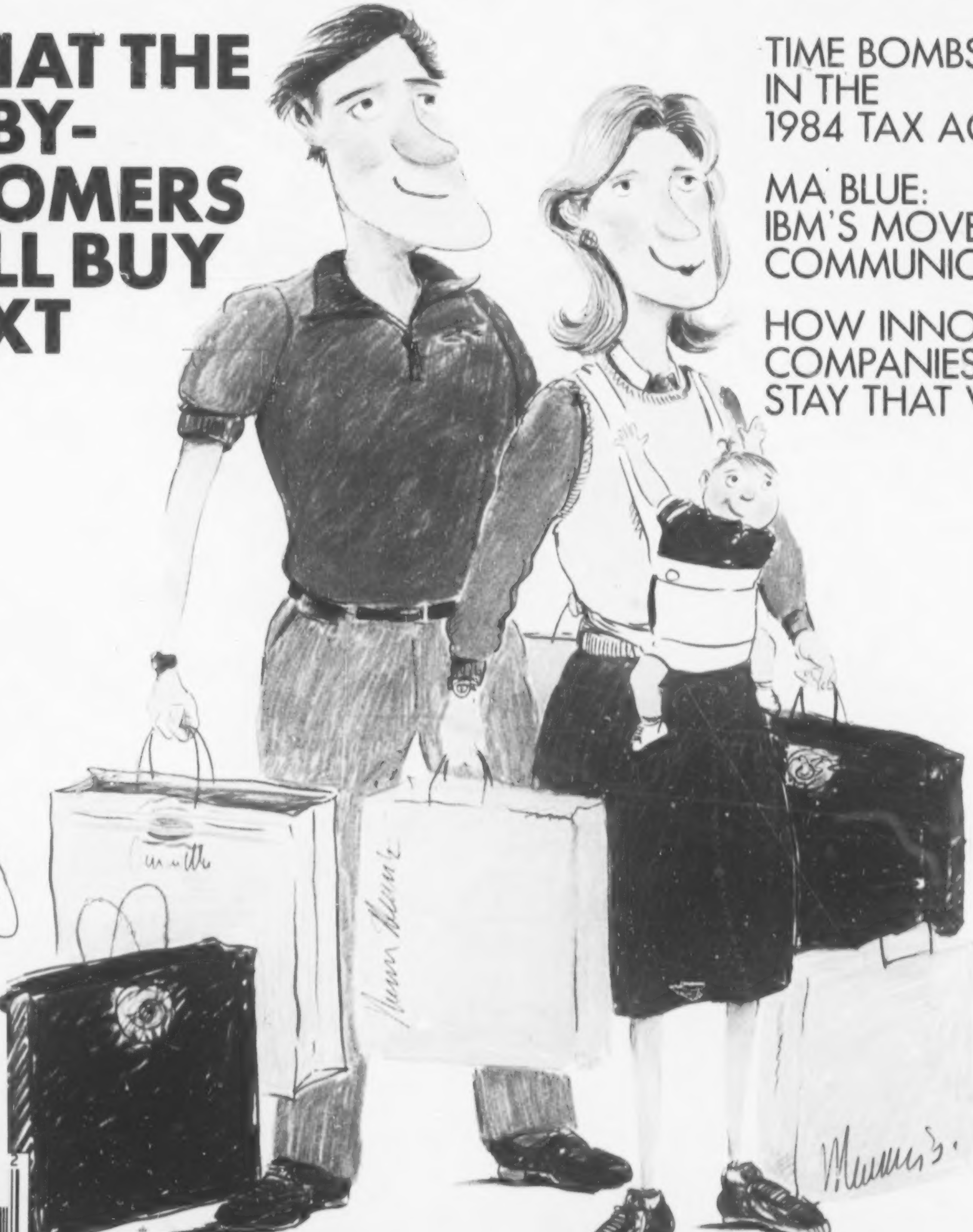
MA BLUE: IBM'S MOVE INTO COMMUNICATIONS

HOW INNOVATIVE COMPANIES STAY THAT WAY



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OCTOBER 15, 1984 VOL. 110, NO. 8

FORTUNE

Technology

FORTUNE
WHAT THE BABY-BOOMERS WILL BUY NEXT

Now that the oldest of them are about to turn 40, the free-spending baby-boomers are changing their buying habits. Keith Bendis drew the cover illustration. For the boomers' latest desires, see page 28.

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er, here in Mexico we face problems greater than your bosses probably have ever faced. Were we to produce such paltry returns on stockholders' equity, I should probably resign.

The people you mention may be highly intelligent, but they are not "smart." The way to get on with people is to treat them with respect. A cardinal rule should be that if you have to give a reprimand it should be done in private. The ten people you describe may be serving their egos, but they are not serving the people who have given them their positions and exorbitant incomes.

G. ANTHONY M. BUTT
Managing Director, Probst S.A.
Naucalpan de Juárez, Mexico

Wish List

In "Life After the Lottery" (September 3) I was surprised to find that most of the big-ticket lottery winners maintain a low profile. As I see it these winners don't make the most of their megabucks.

Here's what I would do if I won a million dollars in a state lottery: Tell my boss to "take this job and shove it." Tell my wife to tell her boss the same thing. Take my wife and two boys on a three-month tour around the most beautiful spots in the world. After traveling, buy two homes in the U.S. One on the West Coast, and one on the East Coast, beachfront property a must. Buy two new automobiles and an airplane. Start my own doughnut shop franchise—first locally, and then nationally.

JAMES D. HUNTLEY
Santee, California

Corrections

The box accompanying "Why Directors Can't Protect the Shareholders" (September 17) mistakenly said that several of Pneumo Corp.'s outside directors resigned last year in a dispute with management over whether to sell the company's retail operations. Pneumo's sale of its retail businesses was never formally brought before the board, and no directors resigned. The same story erroneously reported that when Harold Geneen's group sold its shares in George A. Fuller Co., it barely broke even. The Geneen group earned 250% on its equity investment and 34% on its debt investment in 2½ years.

"Hard Sell Comes to Software" (September 17) incorrectly referred to Innovative Software as a private company. Innovative went public a year ago and is traded over the counter.

The FORTUNE directory of the 500 largest industrial corporations outside the U.S. (August 20) included several incorrect figures for Alcan Aluminium. The correct figures are: sales, $5,208,000; assets, $6,600,000; net income, $73,000,000; stockholders' equity, $2,799,000.

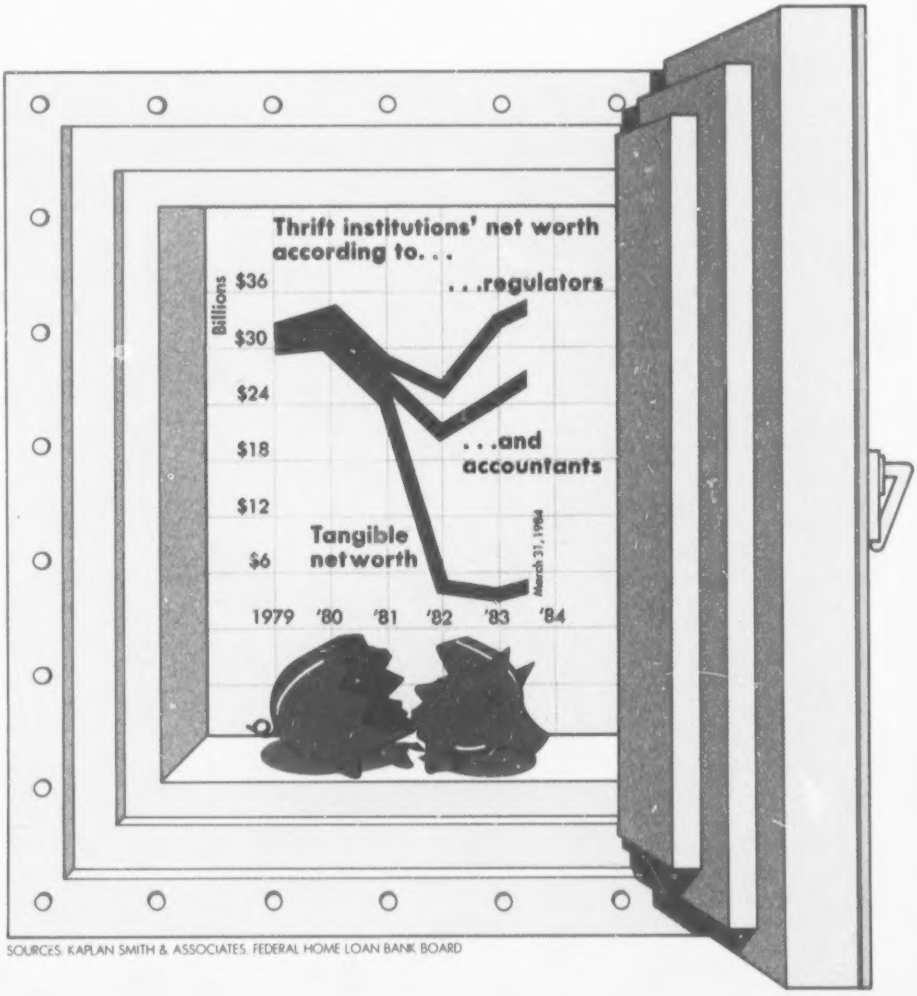
The directory should also have listed the end of Swedish Match's fiscal year as December 31, 1983. ■

THE THRIFT INDUSTRY IS UNDER SIEGE AGAIN

With their financial strength decimated by the interest-rate onslaught of 1981 and 1982 and their earnings now vanishing, savings institutions are living on accounting illusions and prayers that today's high rates will ease. If they don't, hundreds of thrifts could soon fail. ■ *by Gary Hector*

THE LATEST CRISIS for the nation's savings institutions extends far beyond the run that recently crippled Financial Corp. of America, the largest such institution in the U.S. For almost four years federal regulators have sanctioned accounting gimmicks that make the weak balance sheets of savings and loans and mutual savings banks look almost healthy. But the industry is nearly as feeble now as it was two years ago, after skyrocketing interest expenses had driven 780 thrift institutions into merger or liquidation. And as regulators survey the damage from the latest run-up in interest rates, they see no choice but to employ more gimmicks while hoping for rates to subside or for deep-pocketed acquirers to rescue shaky institutions.

The thrifts have not rebuilt their strength as fast as regulators had hoped. They have made maddeningly little progress in girding against their greatest danger, a rise in short-term rates. Their total net worth, when stripped of such dubious bookkeeping items as goodwill, is down sharply from three years ago (see chart). And although interest rates are well below



SOURCES: KAPLAN SMITH & ASSOCIATES; FEDERAL HOME LOAN BANK BOARD

Weaker Than They Look

Regulators accept accounting gimmicks that make the savings and loan industry's net worth appear robust of late, and it hasn't slipped much when measured by generally accepted accounting principles. But subtracting goodwill leaves an anemic level of tangible net worth. All three numbers will worsen unless interest rates fall significantly.

ILLUSTRATION BY ROGER GORMAN

their 1981 peak, when the prime rate soared to 20.5%, the industry is barely earning a profit. "Absent a real rate improvement," says a Wall Street economist, "it's going to get fairly dicey." While fewer than a dozen of the nation's 3,500 thrifts have failed this time around, he says, hundreds more could.

Still on the books are warehouses full of fixed-rate, long-term mortgages made years ago when interest rates were much lower, plus a raft of new fixed-rate loans made last year before rates crept up again. Thrifts are bidding against banks and money market funds for consumer savings, paying market rates on deposits and dishing out more to depositors than they take in on those mortgages. There's no quick way to end this pain. The savings institutions can't unilaterally pay lower interest rates on deposits, since savers would bolt, forcing them to liquidate part of their loan portfolios. Few thrifts are financially strong enough to sell off the old mortgages in any case. When interest rates started leaping back in the late 1970s, the fixed-rate mortgages collapsed in value but were kept on the books at face value. To sell those mortgages at today's rates would be to take staggering write-offs.

"Unless interest rates drop appreciably by mid-1985, the percentage of savings institutions in serious trouble could equal the worst days of mid-1982."

DAVID W. GLENN
Past director, Federal Savings & Loan Insurance Corp.

STEVE SMITH

IF INTEREST RATES STAY at recent levels, with the prime at 13%, the thrift industry will be losing bucketfuls by year-end. The delayed effect of higher rates will slowly pinch earnings as six-month and one-year certificates of deposit mature and are replaced by certificates at today's rates. Worries David W. Glenn, past director of the Federal Savings & Loan Insurance Corp., which insures deposits at most S&Ls: "Unless interest rates drop appreciably by mid-1985, the percentage of savings institutions in serious trouble could equal the worst days of mid-1982."

RESEARCH ASSOCIATE *Rachael Grossman*

The choices open to regulators are few. They can't bail out thrifts en masse or absorb the expense of liquidating them and meeting their uncovered obligations. The $23 billion in the nation's deposit insurance system wouldn't begin to pay the bill. "Until interest rates come down," says D. James Croft, formerly director of the Federal Home Loan Bank Board's office of examination and supervision, "the only realistic strategy for the regulators is to buy time." That's what the FHLBB, which regulates savings and loans, has been doing over the past four years. While commercial bank regulators have been pressing banks to increase capital as a cushion against the heightened risks brought about by deregulation, the FHLBB has been moving in the opposite direction with the weaker thrift industry, loosening capital requirements and accounting procedures to keep many S&Ls from failing.

Although interest rates dropped in 1982 and 1983, they didn't drop enough for S&Ls to score big profits and boost their capital. In its best showing, during the first half of 1983, the industry earned money at a lackluster annual rate of 30 cents on every $100 of assets. A third of the nation's thrifts never regained profitability during 1983. By the first quarter of 1984, the return on assets had dropped to less than 16 cents per $100 of assets and by the end of the second quarter the industry was just breaking even.

Regulators aren't sure what will happen if rates remain high. In 1981 and 1982 the vast majority of troubled thrifts were saved through mergers with stronger institutions. But creative accounting played a part, along with a lot of government help. In many mergers, Washington guaranteed a minimum return on the acquired thrift's mortgages, took over problem loans, or put up money.

But last year the kill-joys in the accounting industry rewrote the rules for acquisitions, taking away a big incentive for buying a floundering thrift. Now it's likely that when the FSLIC or the Federal Deposit Insurance Corp., which regulates mutual savings banks, steps in to force a merger, the government will have to pick up more of the bill. And the failures produced by a year of high rates could easily strain the nation's deposit insurance system. Says Edwin J. Gray, chairman of the FHLBB, "The losses that we are seeing and can reasonably foresee down the line are causing a steady and significant deterioration in the [S&L] insurance fund's level."

The heart of the problem is the industry's vulnerability to rising short-term rates. A few large S&Ls, including subsidiaries of such publicly traded giants as Great Western Financial Corp. and H.F. Ahmanson & Co., both of Los Angeles, have dramatically improved their balance sheets by writing reams of adjustable-rate mortgages, whose rates can be changed every six months or so. But the industry as a whole, most of it depositor-owned mutual institutions, has made disappointing progress. Faster than the thrifts could write adjustable-rate mortgages, depositors pulled billions of dollars out of low-interest savings accounts and stuffed them into newly created short-term deposits—money market accounts and CDs—paying higher and variable rates of interest.

ONE IMPORTANT measure of the industry's exposure is its short-term interest rate gap. Essentially the gap compares the loans and deposits on which rates are likely to change within a year. If interest-sensitive deposits exceed loans in this calculation, then when interest rates rise, the industry's costs will rise faster than income, putting a squeeze on profits. The larger the gap, the more deadly the squeeze. And the industry's gap is nearly as large as in late 1981, when a spike in interest rates inflicted widespread losses.

Estimates by Kaplan Smith & Associates, a consulting firm, show that the gap was equal to about 38% of total thrift assets at the end of March, almost unchanged from the end of 1981. Thrifts have belatedly attacked the gap, furiously issuing adjustable-rate mortgages. But they still have a long way to go.

Once the industry starts to lose money, its capital could rapidly disappear. As figured by regulators, the nation's S&Ls as a whole have net worth equal to about 4% of their liabilities. In the 1970s, when the industry was heavily protected by regulation, including artificially low ceilings on the interest thrifts could pay on most deposits, regulators flew into a rage if an institution's net worth dropped below 5%. Today's 4% figure, moreover, is puffed up by accounting gimmicks. One is capital income certificates, paper capital created by regulators in exchange for a low-interest long-term note from a troubled thrift. Another is deferred losses on securities, a bookkeeping entry that allows S&Ls to spread their realized losses on securities transactions over several years.

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> *Chairman, Federal Home Loan Bank Board*

The biggest and most questionable accounting item, though, is goodwill derived from the takeovers of troubled thrifts. Goodwill is an accounting concept used when one company pays a premium over market value for another. In recent thrift mergers, the goodwill created when one S&L bought another was mainly the excess paid over market value for the acquired thrift's mortgages.

Almost no one argues that goodwill is valueless—among other things, the loyalty of consumers to a specific S&L is worth quite a bit. But goodwill is not the stuff of which solid financial institutions are made. Without the accounting mush—mainly goodwill—the thrift industry has a disconcertingly small core of hard capital. On March 31 the S&Ls insured by the FSLIC had $34 billion of net worth as far as regulators were concerned. Subtracting such items as deferred losses and capital income certificates, which aren't considered capital under generally accepted accounting principles, cuts the industry's capital on that date to about $27 billion.

THE REALLY DRASTIC shrinkage comes when goodwill is excluded. Most of it, or about $20 billion, results from S&L mergers of the past three years. What's left after subtracting goodwill is tangible net worth—a sum of $4.5 billion, or about 0.5% of S&Ls' liabilities at the end of March. That core of capital, including cash and buildings, is concentrated among a dozen or so institutions, including those that raised about $2.7 billion in cash through public stock offerings last year. Some leading institutions' net worth is a negative figure (see table). Many S&L executives minimize the importance of tangible net worth, arguing that it greatly understates their core capital.

What counts in the end is not the state of S&L balance sheets but what depositors and investors think. Depositors could lose faith and exit from thrift accounts, while investors could desert S&L stocks, causing them to plunge. Neither has happened yet. "The public doesn't care if the S&Ls don't have any net worth," says Paul Horvitz, a professor of finance at the University of Houston who sits on the board of the Federal Home Loan Bank of Dallas. As long as there is no run on the S&Ls, says Horvitz, "we can stall for a long time, keeping the institutions alive with funny accounting if necessary."

Since the public isn't edgy, regulators are free to engage in hocus-pocus. The FHLBB and FSLIC developed these strategies in the dark days of 1980 and 1981 under Richard Pratt, then chairman of the FHLBB. The agency didn't just allow S&Ls to cook the books, it handed out cookbooks.

AMONG ITS MORE fascinating recipes was a technique for turning goodwill into paper profits. A brief example illustrates the metaphysical possibilities. One S&L acquired another, in the process obtaining a 9% mortgage with a face value of $100,000. Mortgage rates had risen since the mortgage was originally issued, so it was now worth only $80,000. The $20,000 drop was recorded as goodwill, which is slowly written off over 40 years as an expense. Meanwhile, though, the mortgage creates an offsetting stream of added income as it is paid off in full over the years. The income flows in faster than the expense—a typical low-interest mortgage has 15 years to go until maturity—leaving the thrift with a nice reportable profit.

One beneficiary of this procedure is Home Federal Savings & Loan of San Diego. Last year the write-up of acquired mortgages, after subtracting for the charge-off of goodwill, accounted for a third of Home Federal's $34 million of net income. The catch is that long after the mortgages have been written up, the thrift will have to go on writing down goodwill, making its earnings look worse later on.

Accountants decided last year that the divergent periods for recording these items were too fictitious for their taste. The Financial Accounting Standards Board didn't change the accounting for mergers completed in the past, or for new takeovers of healthy thrifts. But where shaky ones are involved, it now requires that the income and expenses related to goodwill be spread over the same period of time. That's one of the accounting changes that is making it harder for regulators to unload failing thrifts.

Meanwhile, the FSLIC has been whipping up another accounting delicacy: a proposed redefinition of insolvency. Under current regulations, an S&L is considered insolvent when its net worth drops to zero. But there's a strong probability that such a definition would force the FSLIC to prop up far too many S&Ls if interest rates stay high. So the agency wants to focus more attention on an

How the Top Ten S&Ls Measure Up

For most of these institutions, all publicly traded either directly or through parent companies, net worth as defined by regulators differs little from the figure reported to the Securities and Exchange Commission, based on accounting principles. But many of the ten carry whopping amounts of goodwill from acquisitions, and subtracting it leaves four with a negative tangible net worth. All S&Ls shown here, except First Federal of Michigan and City Federal of Elizabeth, New Jersey, are based in California.

SAVINGS AND LOAN INSTITUTION Parent company	**ASSETS 3/31/84 in millions**	**NET WORTH AS REPORTED TO... ...THRIFT REGULATORS in millions**	**...AND THE SEC in millions**	**TANGIBLE NET WORTH in millions**
American Financial Corp. of America	$25,048	$1,001	$917	–$177
Home Savings of America H.F. Ahmanson & Co.	$20,787	$795	$720	$332
Great Western Federal Great Western Financial Corp.	$18,834	$795	$790	$785
California Federal	$14,727	$813	$772	$102
Glendale Federal	$9,695	$[illegible]00	$600	–$213
First Nationwide Federal First Nationwide Financial Corp.	$8,673	$299	$278	$277
First Federal of Michigan	$8,445	$224	$200	$163
World Golden West Financial Corp.	$8,183	$277	$277	–$111
Home Federal	$6,981	$572	$572	$386
City Federal	$6,754	$271	$270	–$6

SOURCES: LYONS ZOMBACK & OSTROWSKI, FEDERAL HOME LOAN BANK BOARD

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S&L's ability to generate cash. As long as an S&L is generating enough money to pay its bills, the FSLIC wants the option to ignore its problems. This radical proposal leaves traditionalists fuming. Says a bank regulator, "Financial institutions have to have some equity; that's the price of admission. Anyone who says equity is irrelevant and cash flow is the key is rationalizing."

Whatever accounting gimmickry the regulators indulge in, the ultimate success of their delaying action will depend on how well thrifts succeed in pulling up their profits. In 1982 Congress granted broader powers to most thrifts, allowing them to start making commercial loans and to become more active as real estate developers. If the last two years are any measure, though, it will be at least 1990 before these diversification efforts begin contributing a sizable share of profits. The risks of these new ventures, moreover, could catch up with the S&Ls before the profits start to flow.

What gives regulators nightmares is that somewhere out there in the world of thrifts a chief executive may be trying to restore his institution's health with a big win on a high-risk investment. "A lot more people are going to be encouraged to take desperate gambles," says ex-FSLIC chief Glenn. "If they lose, the government will have to pick up the tab. And if they win they get to keep their jobs and their stock options."

The most important step that thrifts can take now is to jump on the bandwagon in issuing adjustable-rate mortgages. Even these aren't foolproof. The interest rates on about half the adjustable mortgages now being written can rise no more than two percentage points a year, leaving thrift profits vulnerable should interest rates suddenly spurt.

SOME S&Ls, most notably World Savings in Oakland and First Nationwide in San Francisco, are turning to the religion of getting expenses under control. Herbert Sandler, World's chairman, estimates that his S&L's overhead as a percentage of assets is 1.1%, about half a percentage point lower than the average for the country's eight largest S&Ls.

Such feats are likely to be the exception. For most of the industry, few low-risk solutions are available. In deregulating the world of banking, Congress almost ensured that large numbers of thrifts would fold. Congress isn't yet prepared to turn back the clock on deregulation, so regulators are sticking to the plan, leaving plenty of room for institutions to get out of the thrift business, either by diversifying or failing.

Disappearance of the sickest third of the industry seems inevitable. Thrifts that are still fairly healthy, but might not remain so, need financially strong acquirers whose capital can tide them over until those old mortgages expire. Commercial banks in quest of wider customer bases would seem the most appropriate buyers. But the laws allow banks to acquire only failing thrifts. Congress needs to allow all comers, including banks and nonfinancial corporations, to buy healthy S&Ls, but seems in no hurry to do so. Yet if it waits too long, some S&Ls may weaken so greatly as to scare off buyers.

While some might mourn the absorption of the neighborhood S&L into an impersonal conglomerate, this solution seems preferable to another alternative: allowing the thrifts to combine into bigger—but not necessarily stronger—units. The government's strategy of stalling, instead of encouraging takeovers from outside the thrift industry, amounts to a Micawberish bet that lower interest rates will come along and save the S&Ls from their troubles. ■

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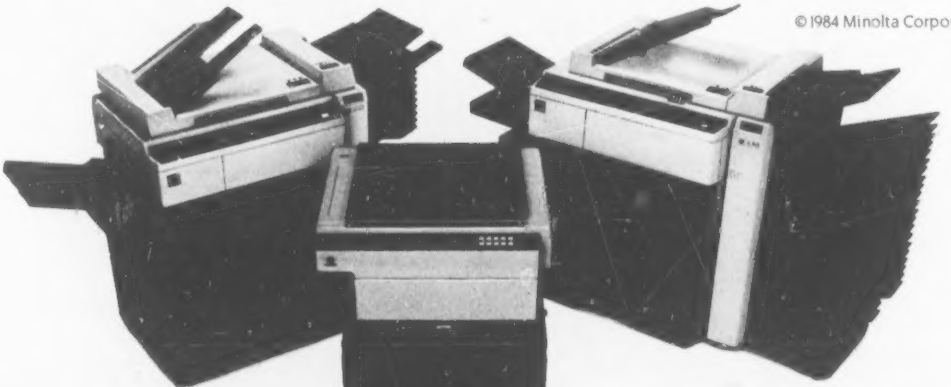

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NEW ISSUES: WHO UNDERWROTE THE LEMONS

Of the 30 firms that brought out the most new stock issues last year, only one sold investors more winners than losers.

SHARES IN COMPANIES going public for the first time were the hottest merchandise in the 1983 bull market—and many investors got burned. Now that most of those new issues have been trading for a year, what do the results tell investors about the sellers? FORTUNE asked the research firm Interactive Data to track the performance of new issues brought out by the 30 underwriters that managed or co-managed ten or more issues in 1983. The data show that only one underwriter brought out more winners than losers: Chicago's William Blair & Co. The second- and third-ranked underwriters—Colorado's Blinder Robinson and Robinson-Humphrey, an American Express subsidiary in Atlanta—batted only .500. Shares underwritten by Wall Street's Merrill Lynch and L.F. Rothschild and San Francisco's Montgomery Securities turned in some of the worst performances. Even blue-chip underwriters such as Morgan Stanley and Lehman Brothers fared poorly.

Interactive Data followed the price changes from the day the new issues came out until September 1984. It ranked underwriters by the median performance of their issues. As Standard & Poor's index of 500 stocks rose 17%, the price of the median new issues of all but three underwriters fell.

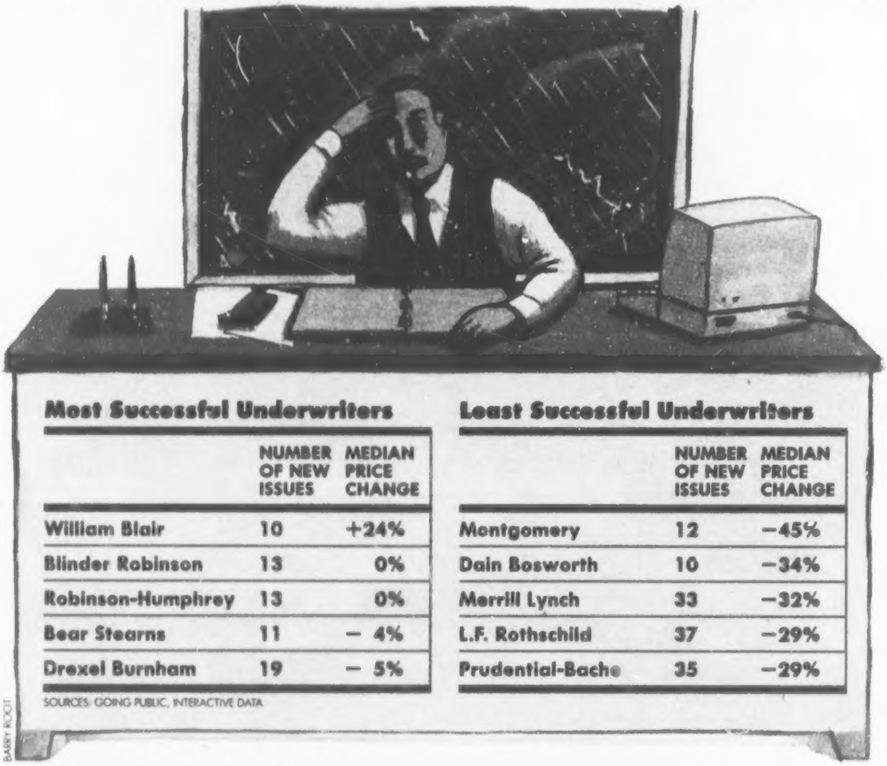
Overzealous pricing of the new stocks contributed to their dismal performance. To win clients, many underwriters promised to bring stocks out at prices much higher than earnings prospects justified. Says Fred Joseph, a Drexel Burnham Lambert executive: "Sometimes it was easy to fall for your own B.S." William Blair says its new issues did well because it priced them conservatively. Pricing is an underwriter's nightmare. If the stock drops, investors complain. If it rises fast, the company going public misses out on millions in capital. The ideal, say most underwriters, is for a stock to climb about 10% after it comes out, and then rise steadily with the company's earnings.

William Blair also scored by keeping away from high-tech stocks. Blair underwrote office supply companies, including such pedestrian winners as Guilford Industries (up 168%) and ACCO World (up 61%). Guilford, based in Maine, makes fabrics for office wall dividers. ACCO World is a Chicago maker of paper clips and report folders.

One-quarter of 1983's initial offerings were for medical companies. Health maintenance organizations (HMOs), which manage groups of physicians, were particularly hot. Bear Stearns brought out HealthAmerica, a Tennessee-based operator of 30 outlets whose stock has soared 318%. D.H. Blair's new issues had a rough year, but the firm still brought out one of the best-performing companies: Staar Surgical of California. The company has a new artificial lens for cataract patients; its stock shot up 636%.

Some of the worst issues were for computer companies. Last year almost any company with a connection to high tech could be brought out at a hefty multiple. But most failed to live up to their promise. Merrill Lynch brought out Trilogy, the company founded by ex-IBM whiz Gene Amdahl, which recently abandoned plans for a high-speed mainframe computer; the stock tobogganed 88%. L.F. Rothschild underwrote TeleVideo Systems (down 74%), and Montgomery Securities co-managed Fortune Systems (down 84%). Both companies got caught in the personal computer shakeout.

The poor showing of the 1983 new issues has made this year's market much more conservative. Capital raised so far is running 68% below 1983's record $12.6 billion. Not as many companies are going public, and those that are seem modestly priced. Says Joseph of Drexel Burnham: "It's an overreaction to an overreaction." Still in vogue are medical stocks and, yes, even some new computer companies. **—Brian Dumaine**



Most Successful Underwriters

	NUMBER OF NEW ISSUES	MEDIAN PRICE CHANGE
William Blair	10	+24%
Blinder Robinson	13	0%
Robinson-Humphrey	13	0%
Bear Stearns	11	− 4%
Drexel Burnham	19	− 5%

Least Successful Underwriters

	NUMBER OF NEW ISSUES	MEDIAN PRICE CHANGE
Montgomery	12	−45%
Dain Bosworth	10	−34%
Merrill Lynch	33	−32%
L.F. Rothschild	37	−29%
Prudential-Bache	35	−29%

SOURCES: GOING PUBLIC, INTERACTIVE DATA

BARRY ROOT

Under the Weather

Securities firms turned 888 private companies into public ones last year. But the underwriters don't have much to crow about: most of the new stocks performed dismally.